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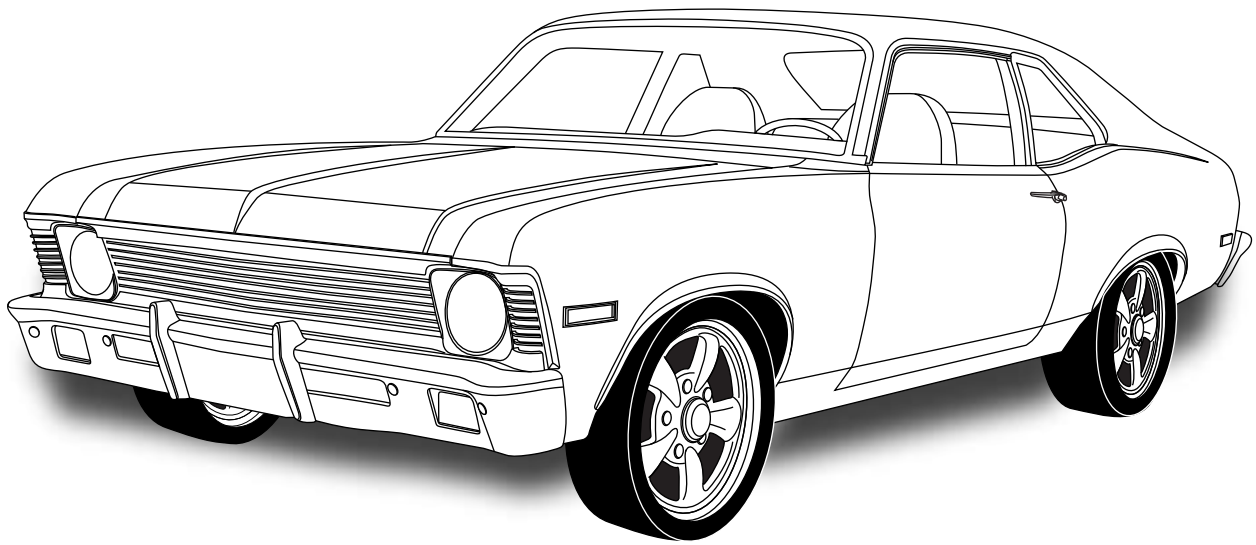
1969-72 NOVA

WITH AC

565072



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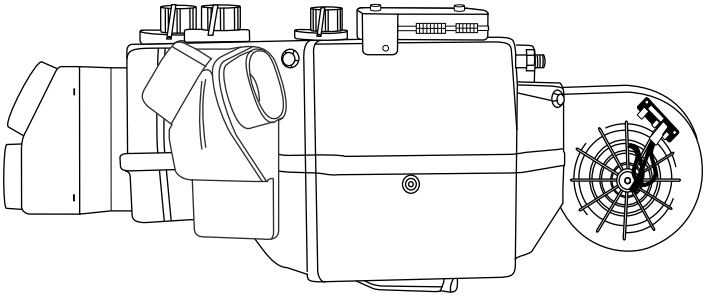
EVAPORATOR KIT PACKING LIST

EVAPORATOR KIT
565072

No.	QTY.	PART No.	DESCRIPTION
1.	1	744003	GEN IV 4 VENT EVAP. SUB CASE w/ 205 ECU
2.	1	784177	1969-72 NOVA w/ AC ACC. KIT

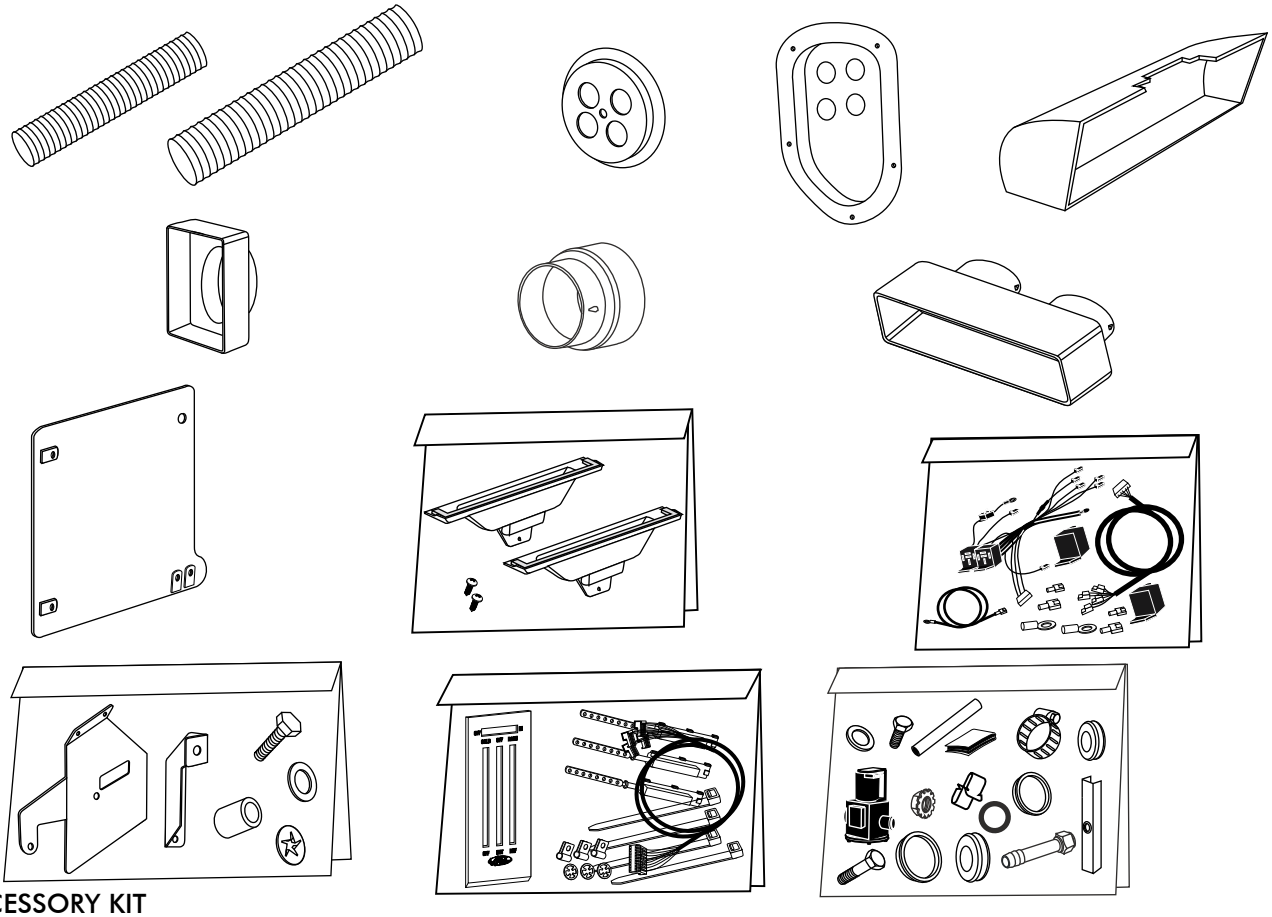
**** BEFORE BEGINNING INSTALLATION OPEN ALL PACKAGES AND CHECK CONTENTS OF SHIPMENT. PLEASE REPORT ANY SHORTAGES DIRECTLY TO VINTAGE AIR WITHIN 15 DAYS. AFTER 15 DAYS, VINTAGE AIR WILL NOT BE RESPONSIBLE FOR MISSING OR DAMAGED ITEMS.**

①



GEN IV 4 VENT
EVAP. SUB CASE
w/ 205 ECU
744003

②



ACCESSORY KIT
784177

NOTE: IMAGES MAY NOT DEPICT ACTUAL PARTS AND QUANTITIES. REFER TO PACKING LIST FOR ACTUAL PARTS AND QUANTITIES

1969-72 NOVA

IMPORTANT NOTICE–PLEASE READ

FOR MAXIMUM SYSTEM PERFORMANCE VINTAGE AIR RECOMMENDS THE FOLLOWING:

THIS KIT DOES NOT CONTAIN HEATER HOSE. YOU MUST PURCHASE 8 FEET OF 5/8" DIA. HEATER HOSE FROM VINTAGE AIR (31800-VUD) OR FROM YOUR LOCAL PARTS RETAILER

SAFETY SWITCHES:

YOUR VINTAGE AIR SYSTEM IS EQUIPPED WITH A BINARY PRESSURE SAFETY SWITCH. A BINARY SWITCH (11078-VUS) DISENGAGES THE COMPRESSOR CLUTCH IN CASE OF EXTREME LOW PRESSURE CONDITION (REFRIGERANT LOSS) OR EXCESSIVELY HIGH HEAD PRESSURE (406 PSI), TO PREVENT COMPRESSOR DAMAGE OR HOSE RUPTURE. A TRINARY SWITCH (11076-VUS) COMBINES HI/LO PRESSURE PROTECTION WITH AN ELECTRIC FAN OPERATION SIGNAL AT 254 PSI., AND MAY BE SUBSTITUTED FOR USE WITH ELECTRIC CONDENSER FANS. COMPRESSOR SAFETY SWITCHES ARE EXTREMELY IMPORTANT SINCE AN A/C SYSTEM RELIES ON REFRIGERANT TO CARRY LUBRICATION THROUGH THE SYSTEM.

SERVICE INFO:

ATTENTION: SYSTEM COMPONENTS: THE COMPRESSOR, EVAPORATOR, CONDENSER & DRIER ARE CAPPED. CAPS MAY BE UNDER PRESSURE WITH DRY NITROGEN; BE CAREFUL REMOVING CAPS. DO NOT REMOVE CAPS PRIOR TO INSTALLATION. REMOVING CAPS PRIOR TO INSTALLATION WILL CAUSE COMPONENTS TO COLLECT MOISTURE AND LEAD TO PREMATURE FAILURE AND REDUCED PERFORMANCE.

EVACUATE THE SYSTEM FOR 35-45 MINUTES WITH SYSTEM COMPONENTS (DRIER, COMPRESSOR, EVAPORATOR AND CONDENSER) AT A TEMPERATURE OF AT LEAST 85° F. ON A COOL DAY THE COMPONENTS CAN BE HEATED WITH A HEAT GUN OR BY RUNNING THE ENGINE WITH THE HEATER ON BEFORE EVACUATING. LEAK CHECK AND CHARGE TO SPECIFICATIONS.

VINTAGE AIR SYSTEMS ARE DESIGNED TO OPERATE WITH R134a REFRIGERANT ONLY! USE OF ANY OTHER REFRIGERANTS RISKS A DANGER OF FIRE AND COULD DAMAGE EITHER YOUR AIR CONDITIONING SYSTEM OR YOUR VEHICLE.

USE OF ANY OTHER REFRIGERANTS WILL VOID ALL WARRANTIES OF THE AIR CONDITIONING SYSTEM AND COMPONENTS. USE OF THE PROPER TYPE AND AMOUNT OF REFRIGERANT IS CRITICAL TO PROPER SYSTEM OPERATION. VINTAGE AIR RECOMMENDS OUR SYSTEMS BE CHARGED BY WEIGHT WITH A QUALITY CHARGING STATION OR SCALE.

REFRIGERANT CAPACITY FOR VINTAGE AIR SYSTEMS

(FOR OTHER SYSTEMS, CONSULT MANUFACTURER GUIDELINES)

134a SYSTEM

CHARGE WITH 1.8 lbs.
(1lbs. 12ozs) OF REFRIGERANT

LUBRICANT CAPACITIES: NEW COMPRESSOR - NO ADDITIONAL OIL NEEDED

IMPORTANT WIRING NOTICE-PLEASE READ

SOME VEHICLES MAY HAVE HAD SOME OR ALL OF THEIR RADIO INTERFERENCE CAPACITORS REMOVED. THERE SHOULD BE A CAPACITOR FOUND AT EACH OF THE FOLLOWING LOCATIONS:

1. ON THE POSITIVE TERMINAL OF THE IGNITION COIL
2. IF THERE IS A GENERATOR, ON THE ARMATURE TERMINAL OF THE GENERATOR
3. IF THERE IS A GENERATOR, ON THE BATTERY TERMINAL OF THE VOLTAGE REGULATOR

MOST ALTERNATORS HAVE A CAPACITOR INSTALLED INTERNALLY TO ELIMINATE WHAT IS CALLED 'WHINING' AS THE ENGINE IS REVVED. IF WHINING IS HEARD IN THE RADIO, OR JUST TO BE EXTRA CAUTIOUS, A RADIO INTERFERENCE CAPACITOR CAN BE ADDED TO THE BATTERY TERMINAL OF THE ALTERNATOR.

IT IS ALSO IMPORTANT THAT THE BATTERY LEAD IS IN GOOD SHAPE AND THAT THE GROUND LEADS ARE NOT COMPROMISED. THERE SHOULD BE A HEAVY GROUND FROM THE BATTERY TO THE ENGINE BLOCK, AND ADDITIONAL GROUNDS TO THE BODY AND TO THE CHASSIS.

IF THESE PRECAUTIONS ARE NOT OBSERVED, IT IS POSSIBLE FOR VOLTAGE SPIKES TO BE PRESENT ON THE BATTERY LEADS. THESE SPIKES COME FROM IGNITION SYSTEMS, CHARGING SYSTEMS, AND FROM TURNING SOME OF THE VEHICLE'S OTHER SYSTEMS ON AND OFF. MODERN COMPUTER OPERATED EQUIPMENT CAN BE SENSITIVE TO VOLTAGE SPIKES ON THEIR POWER LEADS, WHICH CAN CAUSE UNEXPECTED RESETS, STRANGE BEHAVIOR, AND MAY ALSO CAUSE PERMANENT DAMAGE.

VINTAGE AIR STRIVES TO HARDEN THEIR PRODUCTS AGAINST THESE TYPES OF ELECTRICAL NOISE, BUT THERE IS A POINT WHERE A VEHICLE'S ELECTRICAL SYSTEM CAN BE DEGRADED SO MUCH THAT NOTHING CAN HELP.

RADIO INTERFERENCE CAPACITORS SHOULD BE AVAILABLE AT MOST AUTO & TRUCK PARTS SUPPLIERS. THEY TYPICALLY ARE CYLINDRICAL IN SHAPE, A LITTLE OVER AN INCH LONG, A LITTLE OVER A HALF INCH IN DIAMETER, THEY HAVE A SINGLE LEAD COMING FROM ONE END OF THE CYLINDER WITH A TERMINAL ON THE END OF THE WIRE, AND THEY WILL HAVE A MOUNTING CLIP WHICH IS SCREWED INTO A GOOD GROUND ON THE VEHICLE. THE SPECIFIC VALUE OF THE CAPACITANCE IS NOT TOO SIGNIFICANT, IN COMPARISON TO IGNITION CAPACITORS THAT ARE MATCHED WITH THE COIL TO REDUCE PITTING OF THE POINTS.

- CARE MUST BE TAKEN WHEN INSTALLING THE COMPRESSOR LEAD, NOT TO SHORT IT TO GROUND. THE COMPRESSOR LEAD MUST NOT BE CONNECTED TO A CONDENSER FAN OR ANY OTHER AUXILIARY DEVICE. SHORTING TO GROUND OR CONNECTING TO A CONDENSER FAN OR ANY OTHER AUXILIARY DEVICE WILL CAUSE SEVERE DAMAGE TO THE ECU.
- WHEN INSTALLING GROUND LEADS ON GEN IV SYSTEMS, THE BLOWER CONTROL GROUND AND ECU GROUND MUST BE CONNECTED DIRECTLY TO THE NEGATIVE BATTERY POST.
- THE HEATER CONTROL VALVE IS A NORMALLY OPEN VALVE. IT MUST BE CONNECTED TO THE ECU TO BLOCK WATER FLOW IN AC MODE.

BEFORE STARTING THE INSTALLATION, CHECK THE FUNCTION OF THE VEHICLE (HORN, LIGHTS,ETC.) FOR PROPER OPERATIONS. STUDY THE INSTRUCTIONS, ILLUSTRATIONS, & DIAGRAMS.

ENGINE COMPARTMENT

REMOVE THE FOLLOWING:

- ☐ BATTERY, BATTERY TRAY (RETAIN).
- ☐ DRAIN RADIATOR, REMOVE RADIATOR (RETAIN)
- ☐ EVACUATE THE A/C SYSTEM IF NECESSARY.
- ☐ OEM CONDENSER AND DRIER (DISCARD). SEE FIGURE 1 BELOW
- ☐ OEM COMPRESSOR AND BRACKET (DISCARD). SEE FIGURE 1
- ☐ EVAPORATOR BLOWER ASSEMBLY (DISCARD)
  TO REMOVE THE EVAPORATOR AND BLOWER ASSEMBLY (UNDER HOOD) AND THE AIR DISTRIBUTION SYSTEM (UNDER DASH) THE FACTORY MANUAL INDICATES, **REMOVING RIGHT INNER FENDER PANEL.**
- ☐ OEM HEATER HOSES (DISCARD). SEE FIGURE 1
- ☐ OEM A/C HOSES AND FIREWALL GROMMET (DISCARD). SEE FIGURE 1
- ☐ INSTALL 1¾" PLASTIC PLUG IN FIREWALL (A/C CARS ONLY). SEE FIGURE 1a BELOW

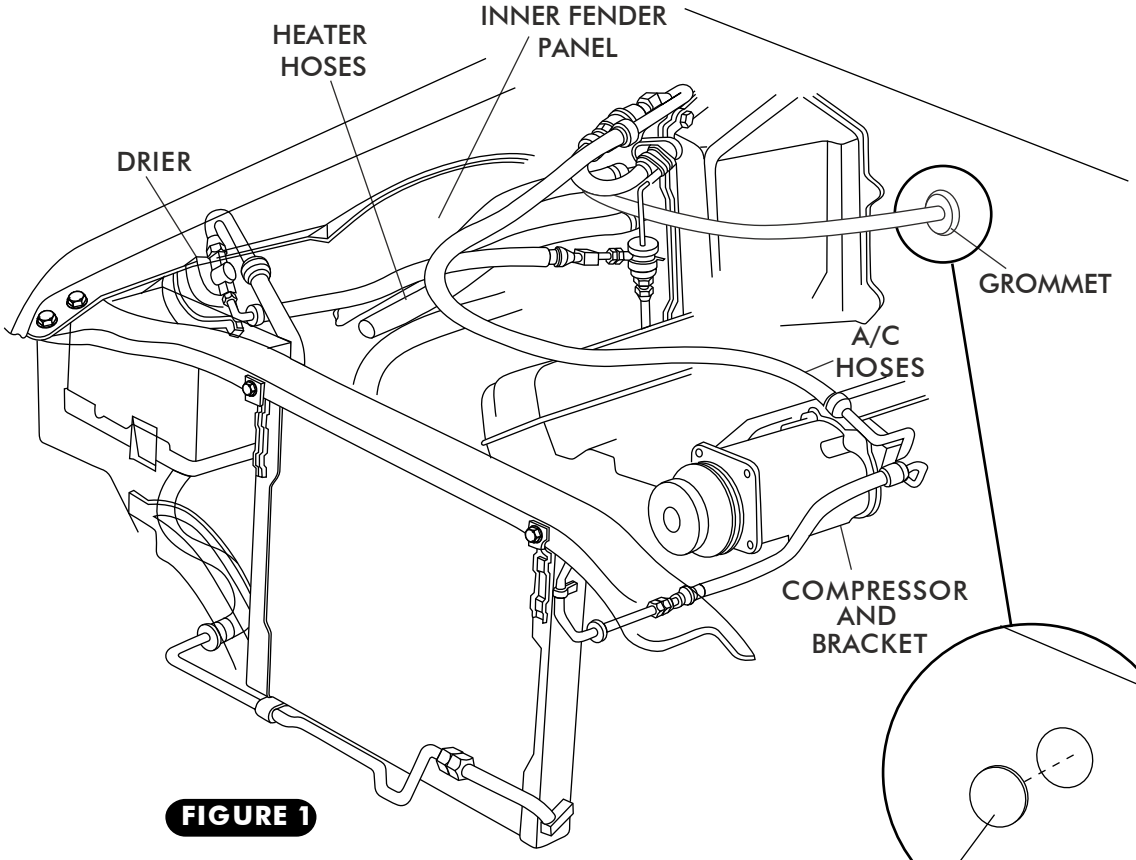


FIGURE 1

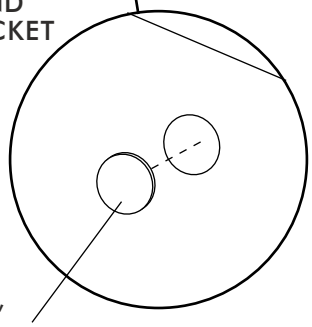


FIGURE 1a

CONDENSER ASSEMBLY & INSTALLATION

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE CONDENSER KIT TO INSTALL THE CONDENSER.
- ☐ BINARY SWITCH INSTALLATION (REFER TO CONDENSER INSTRUCTIONS)

COMPRESSOR & BRACKETS

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH THE BRACKET KIT TO INSTALL THE COMPRESSOR BRACKET.

PASSENGER COMPARTMENT

REMOVE THE FOLLOWING

- ☐ **NOTE: REMOVAL OF INSTRUMENT PANEL REQUIRED TO INSTALL THE EVAPORATOR. VINTAGE AIR RECOMMENDS THAT YOU UTILIZE THE FACTORY SERVICE MANUAL WHEN YOU DISASSEMBLE AND REASSEMBLE THE INSTRUMENT PANEL.**
- ☐ GLOVE BOX DOOR (RETAIN) SEE FIGURE 2
- ☐ GLOVE BOX (DISCARD)
- ☐ A/C HEATER ASSEMBLY AND ALL RELATED DUCTING (DISCARD), RETAIN SCREWS. SEE FIGURE 2
- ☐ OEM DEFROST DUCT ASM (DISCARD)
- ☐ LOWER STEERING COLUMN. PROTECT STEERING COLUMN WITH CLOTH
- ☐ DISCONNECT ALL WIRE AND CABLES FROM INSTRUMENT PANEL SPEEDOMETER, CONTROL PANEL, AND RADIO.
- ☐ CONTROL PANEL ASSEMBLY (RETAIN)
- ☐ REFER TO CONTROL PANEL CONVERSION KIT INSTRUCTIONS FOR INSTALLATION OF CONTROLS.
- ☐ PASSENGER SIDE KICK PANEL FRESH AIR COVER (RETAIN)
- ☐ PASSENGER SIDE KICK PANEL (RETAIN)

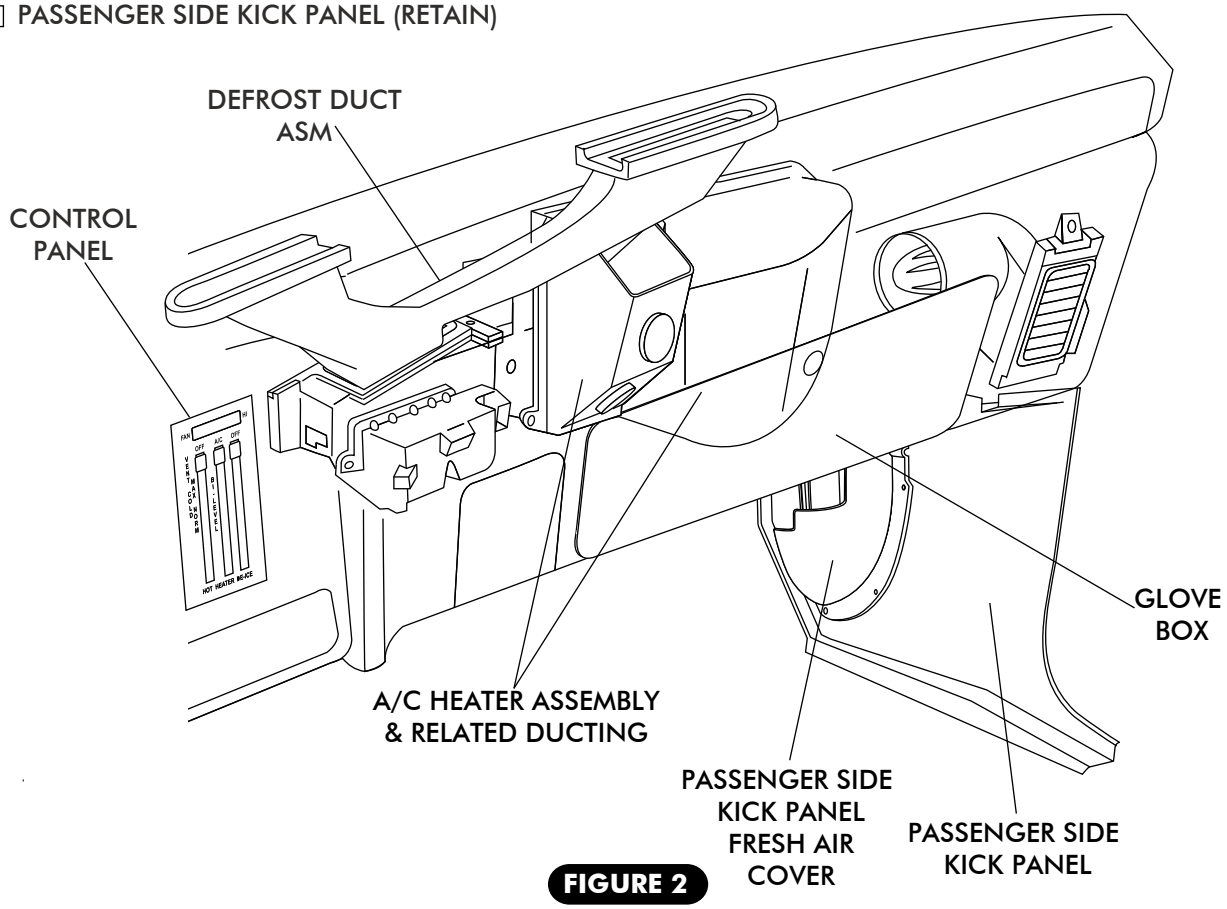


FIGURE 2

KICK PANEL MODIFICATION

- ☐ REMOVE (2) OEM SCREWS FROM THE FRESH AIR DOOR ASM. DISCONNECT AND DISCARD PULL CABLE ASSEMBLIES FROM THE KICK PANEL. SEE FIGURE 3 BELOW.
- ☐ REMOVE KICK PANEL BY REMOVING THE (2) OEM SCREWS. SEE FIGURE 3

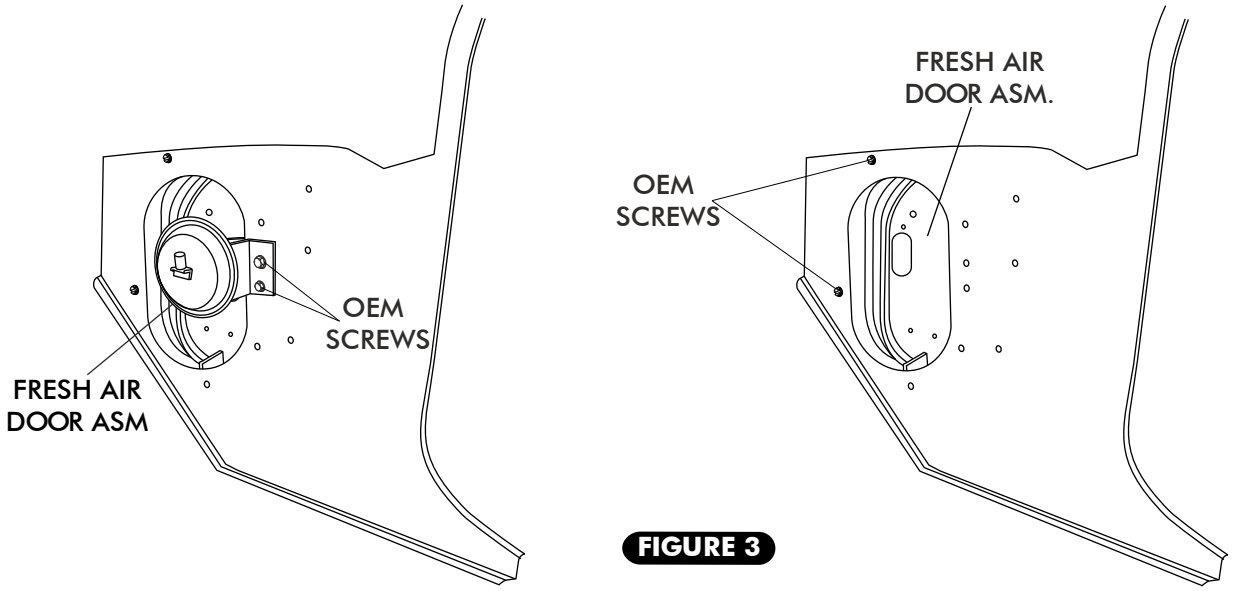


FIGURE 3

- ☐ PLACE TEMPLATE ON KICK PANEL AS SHOWN IN FIGURE 4.
- ☐ CUT FRESH AIR DOOR ASM USING TEMPLATE PROVIDED ON PAGE 24. SEE FIGURE 4 BELOW.

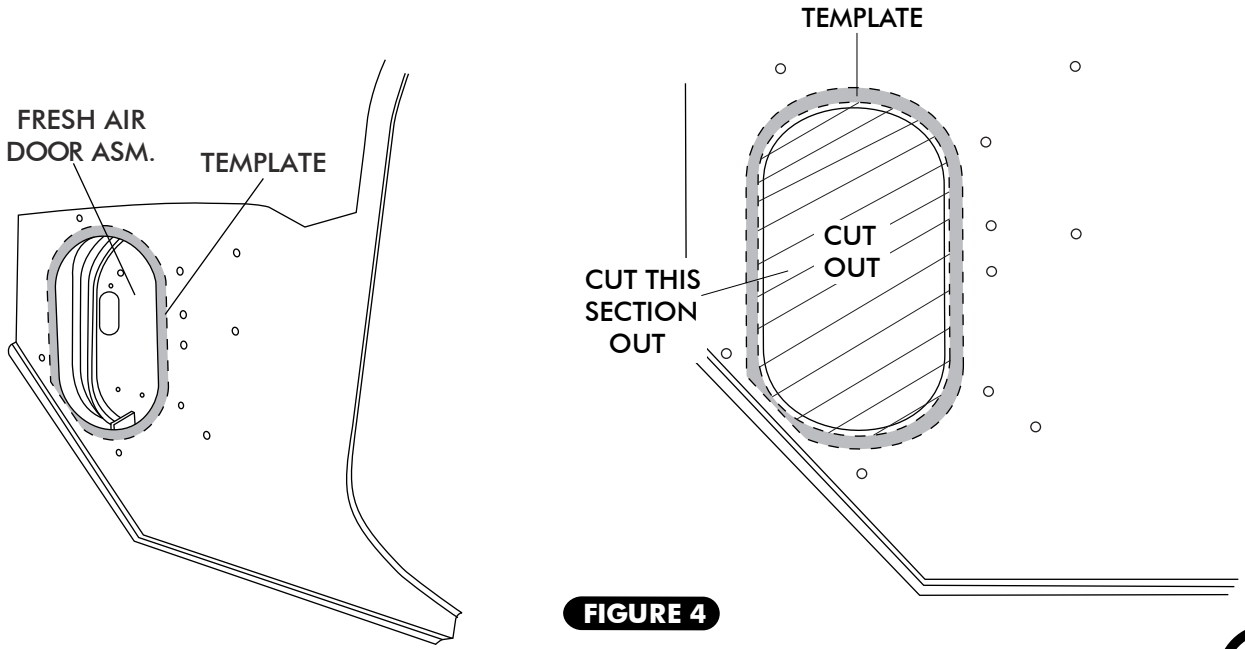


FIGURE 4

DEFROST DUCT INSTALLATION

☐ INSTALL DEFROST DUCTS UNDER DASH AS SHOWN IN FIGURE 5 BELOW. ALIGN DEFROST DUCTS WITH DEFROST OPENING IN DASH, HOLD IN PLACE. USE BRACKET AS TEMPLATE AND DRILL 7/64" HOLE. SECURE USING #10 x ½" SHEETMETAL SCREW.

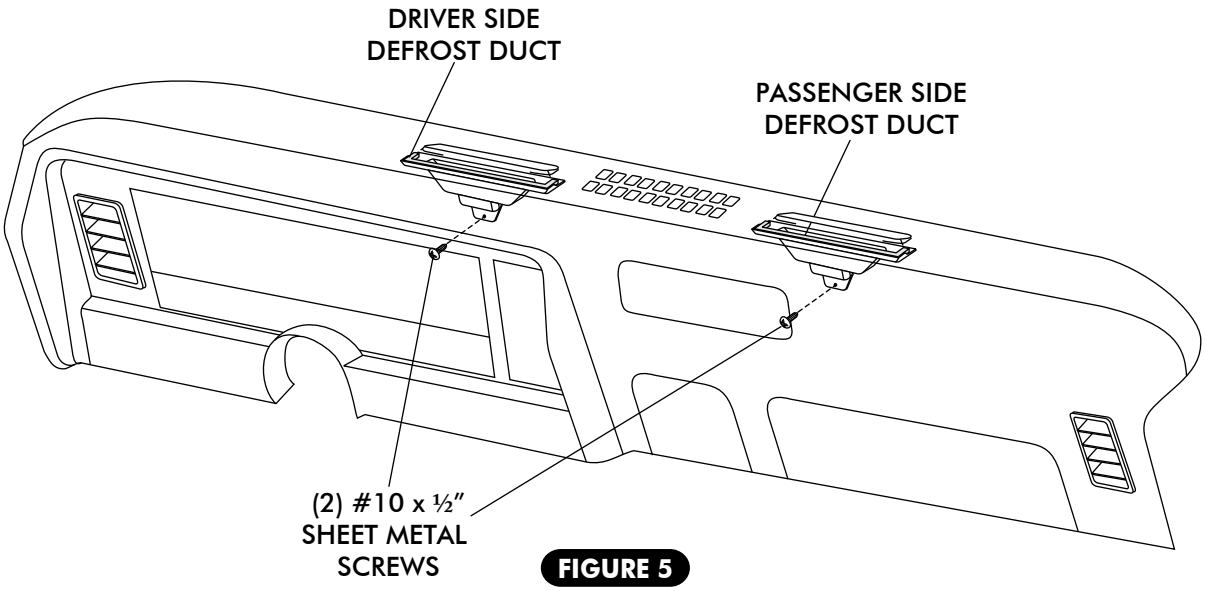


FIGURE 5

HOSE ADAPTER INSTALLATION

☐ INSTALL S-CLIPS ON HOSE ADAPTERS AS SHOWN IN FIGURE 6 BELOW.
☐ INSTALL DRIVER & PASSENGER SIDE HOSE ADAPTERS ON OEM LOUVERS. SEE BELOW

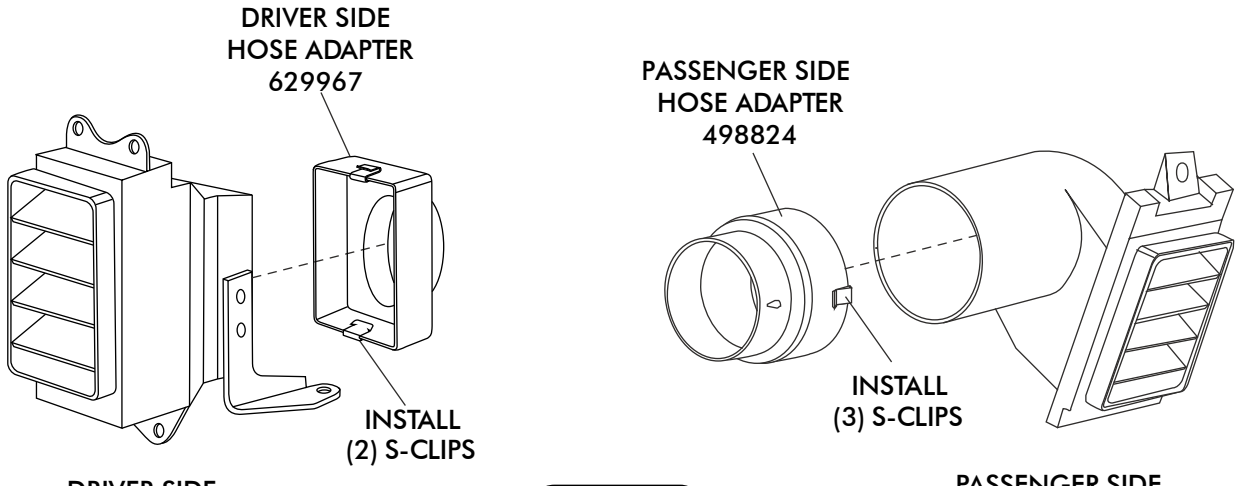


FIGURE 6

FRESH AIR COVER INSTALLATION

- ☐ INSTALL (4) GROMMETS IN FRESH AIR CAP. SEE FIGURE 7 BELOW
- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FRESH AIR CAP AS SHOWN BELOW.
- ☐ ATTACH FRESH AIR CAP TO FIREWALL USING A 1/4-20 x 1 1/2" BOLT AND WASHER, SEE BELOW. (NOTE: FRESH AIR CAP INSTALLS ON ENGINE SIDE OF FIREWALL.)
- ☐ INSTALL 7/8 PLUG AND GROMMET IN FIREWALL AS SHOWN.

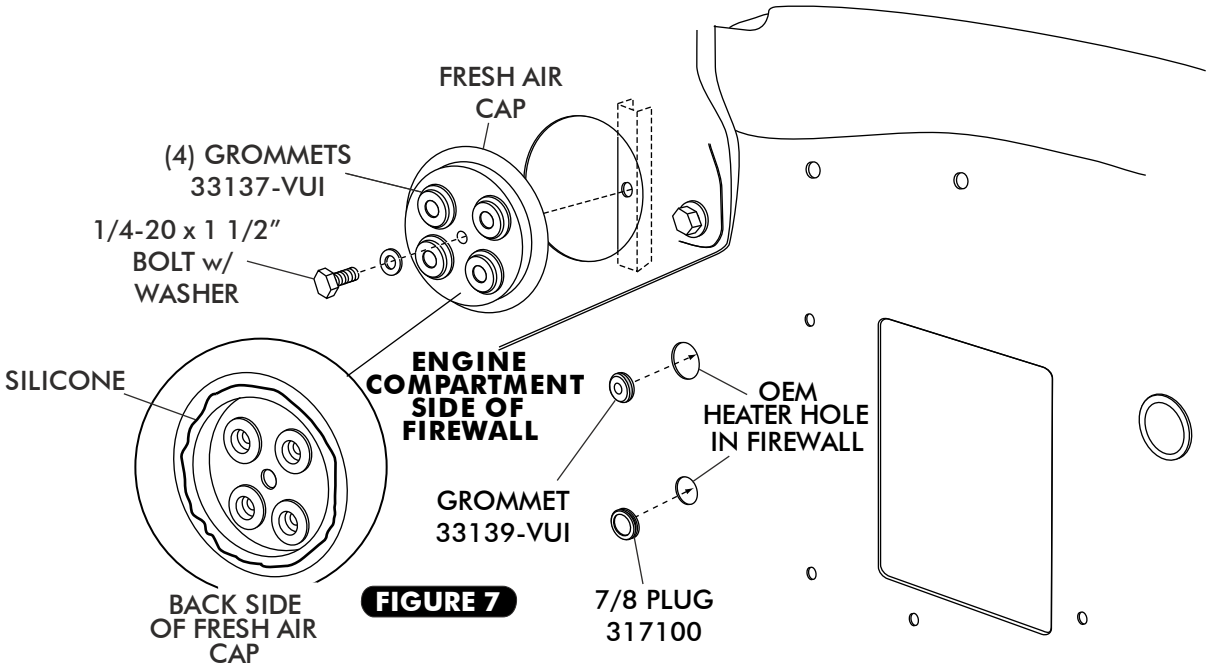


FIGURE 7

KICK PANEL FRESH AIR CAP INSTALLATION

- ☐ INSTALL (4) GROMMETS IN KICK PANEL FRESH AIR CAP, SEE FIGURE 8a BELOW.
- ☐ ROUTE A/C AND HEATER HOSE THROUGH FRESH AIR CAP AND KICK PANEL FRESH AIR CAP AS SHOWN IN FIGURE 8 AND 8b, BELOW.
- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF KICK PANEL FRESH AIR CAP AS SHOWN IN FIGURE 8a, BELOW.
- ☐ SECURE KICK PANEL FRESH AIR CAP USING OEM SCREWS, AS SHOWN IN FIGURE 8b BELOW.
- ☐ RE-INSTALL KICK PANEL WITH OEM SCREWS.

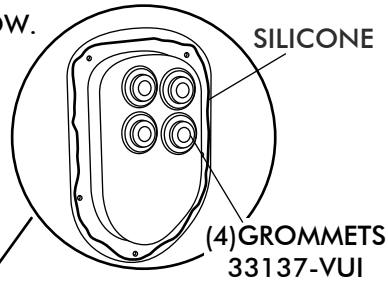


FIGURE 8a

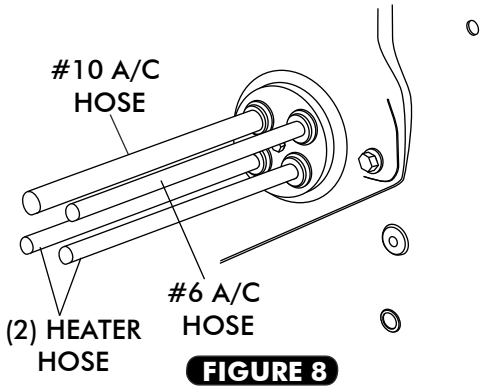


FIGURE 8

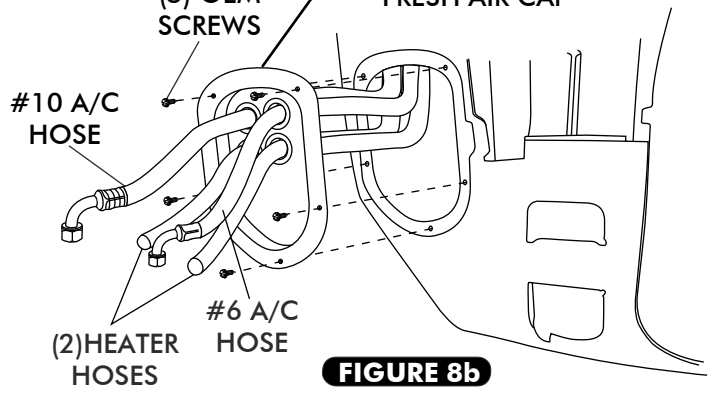
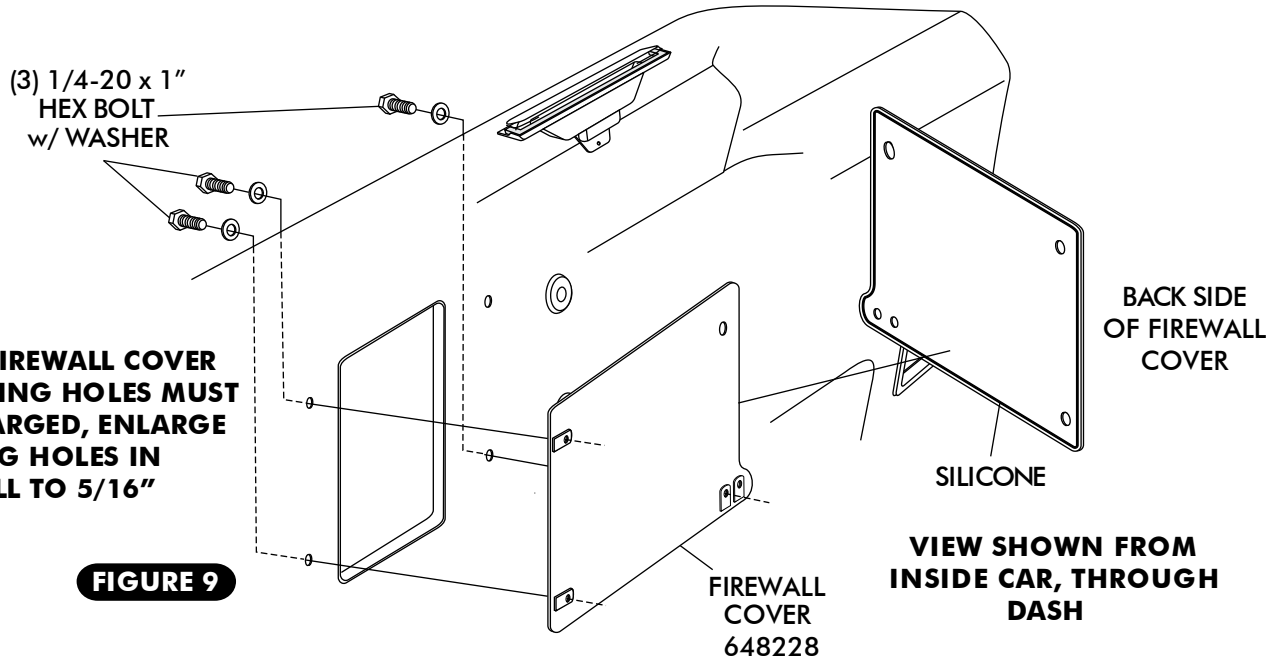


FIGURE 8b

FIREWALL COVER INSTALLATION

- ☐ APPLY A 1/4" BEAD OF SILICONE AROUND THE BACK SIDE OF THE FIREWALL COVER AS SHOWN IN FIGURE 9.
- ☐ SECURE FIREWALL COVER TO FIREWALL USING (3) 1/4-20 x 1" HEX BOLT w/ FLAT WASHER.
- ☐ (NOTE: FIREWALL COVER INSTALLS FROM INSIDE PASSENGER COMPARTMENT.)



NOTE: FIREWALL COVER MOUNTING HOLES MUST BE ENLARGED, ENLARGE EXISTING HOLES IN FIREWALL TO 5/16"

VIEW SHOWN FROM INSIDE CAR, THROUGH DASH

FIGURE 9

EVAPORATOR BRACKET INSTALLATION

- ☐ ON A WORK BENCH INSTALL EVAPORATOR FRONT & REAR MOUNTING BRACKETS ON EVAPORATOR USING (4)1/4-20 x 1/2" HEX BOLTS AND TIGHTEN AS SHOWN IN FIGURE 10 BELOW & FIGURE 11, PAGE 12.
- ☐ LAY EVAPORATOR SUBCASE ON PASSENGER SIDE FLOOR BOARD. INSTALL A/C & HEATER HOSE ON EVAPORATOR AS SHOWN IN FIGURE 12, PAGE 13 AND HOSE INSTALLATION ON PAGE 16.
- ☐ **(NOTE: WRAP THE #10 FITTING CONNECTIONS WITH PRESS TAPE. SEE FIGURE 12, PAGE 13.)**

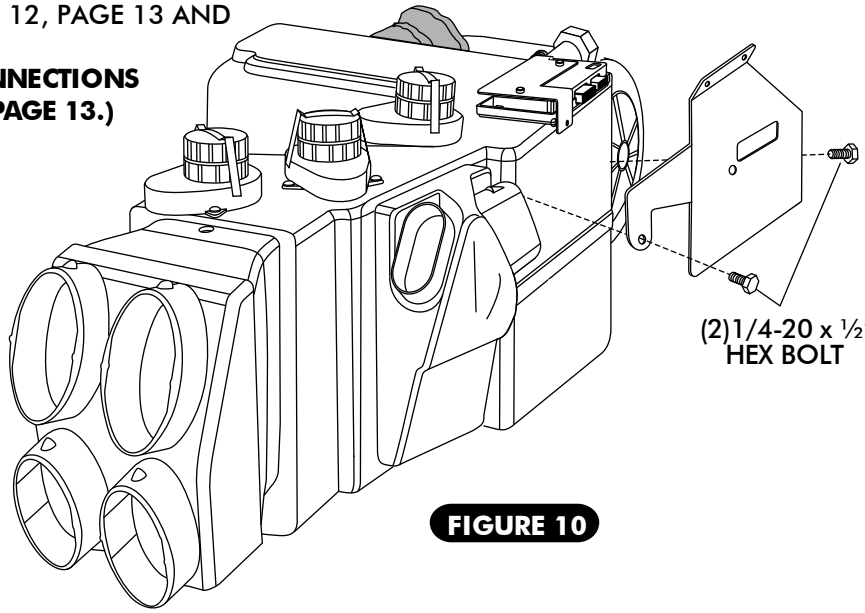


FIGURE 10

EVAPORATOR BRACKET INSTALLATION CONT.

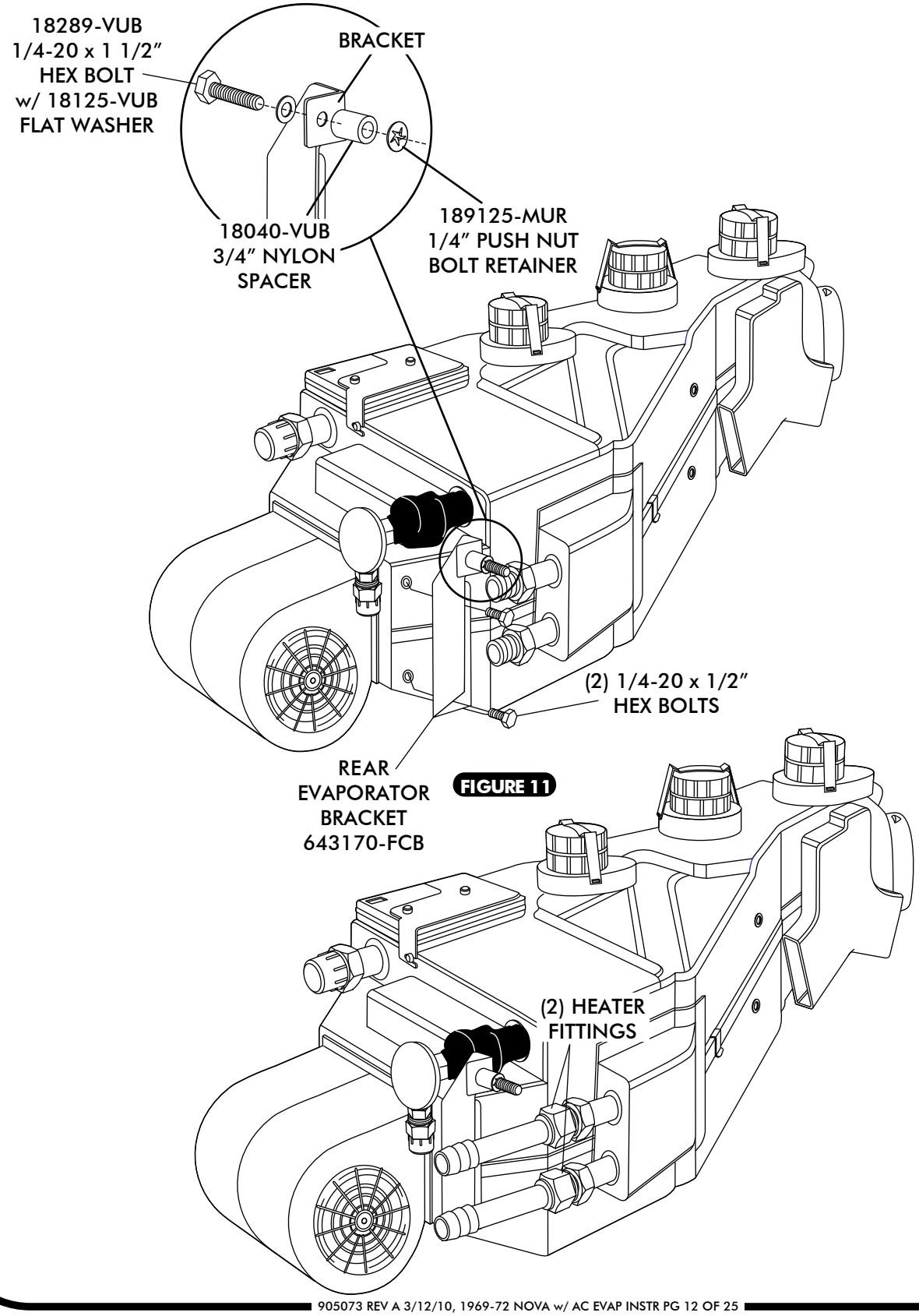


FIGURE 11

EVAPORATOR INSTALLATION

- ☐ LIFT EVAPORATOR UNIT UP UNDER THE DASHBOARD. SECURE LOOSELY TO THE FIREWALL FROM THE ENGINE COMPARTMENT SIDE USING 1/4-20 NUT w/ STARWASHER AND FLAT WASHER. SEE FIGURE 13 BELOW.
- ☐ NOTE: TO ENSURE PROPER DRAINAGE, IT IS VERY IMPORTANT THAT THE EVAPORATOR IS LEVEL, BOTH LEFT-RIGHT AND FORE-AFT. CHECK FOR LEVEL ON THE FLAT PORTIONS OF THE CASE AROUND THE DRAIN, BLOCK THE UNIT UP, THEN DRILL FOR FRONT BRACKET SCREWS.
- ☐ USING (2) #14 x ¾ SHEET METAL SCREW SECURE THE FRONT EVAPORATOR MOUNTING BRACKET TO THE INNER COWL. SEE FIGURE 13a BELOW.
- ☐ VERIFY THAT EVAPORATOR UNIT IS LEVEL AND SQUARE TO THE DASH, THEN TIGHTEN ALL MOUNTING BOLTS. (NOTE: TIGHTEN THE BOLT ON FIREWALL FIRST, THEN THE FRONT MOUNTING BRACKET SCREWS.)

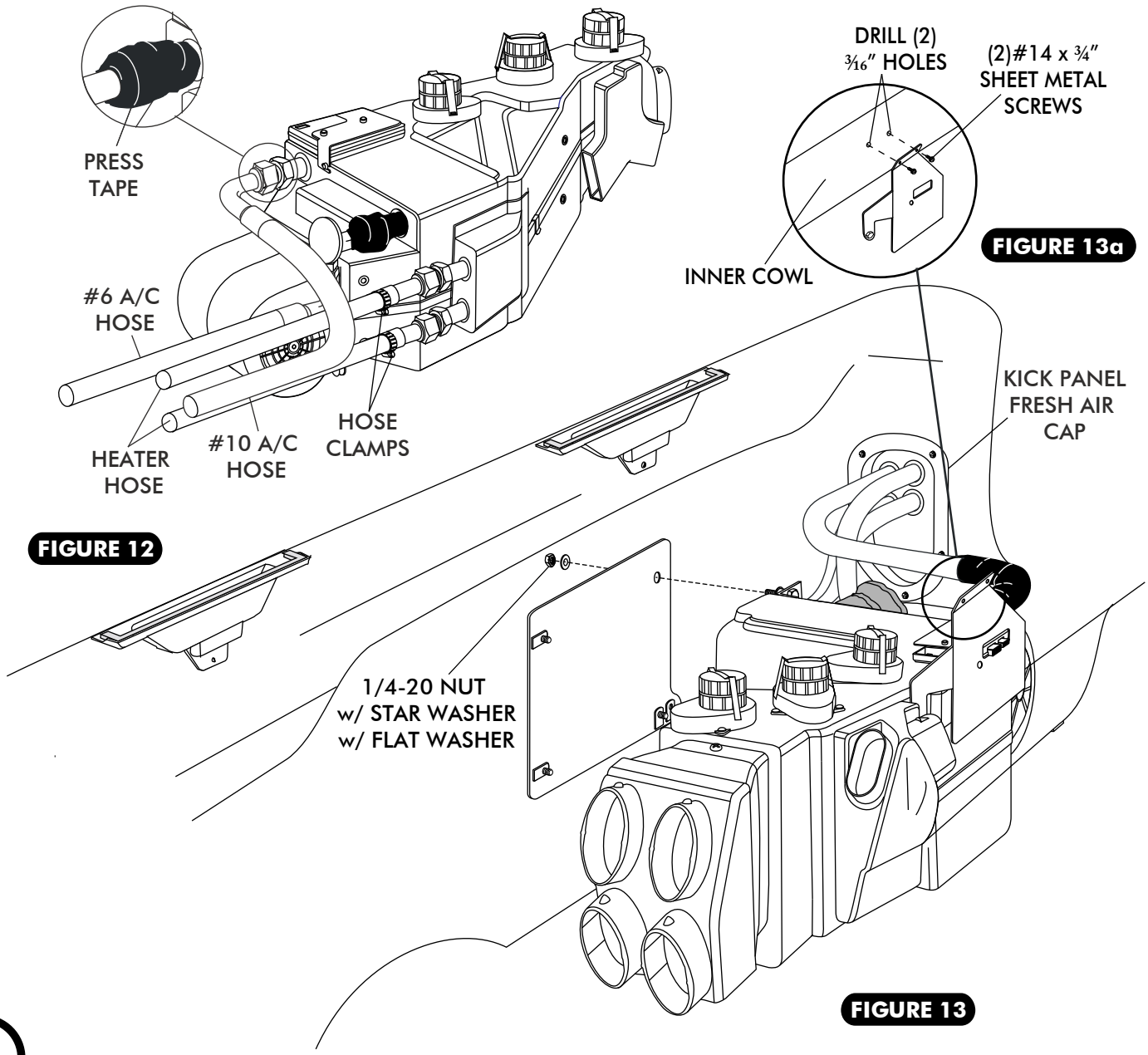


FIGURE 12

FIGURE 13a

FIGURE 13

CENTER LOUVER INSTALLATION

- ☐ INSTALL (4) "S"-CLIPS ON CENTER LOUVER HOSE ADAPTER AS SHOWN IN FIGURE 14 BELOW.
- ☐ INSTALL CENTER LOUVER HOSE ADAPTER ON CENTER LOUVER ASSEMBLY. SEE BELOW.

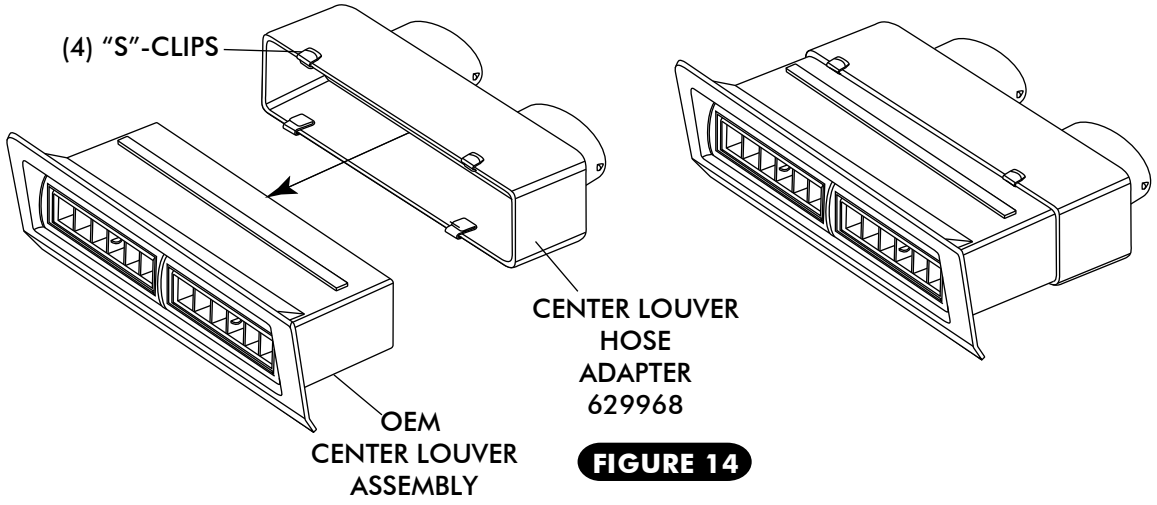


FIGURE 14

- ☐ INSTALL CENTER LOUVER ASSEMBLY IN DASH, USING OEM SCREWS. SEE FIGURE 15 BELOW.

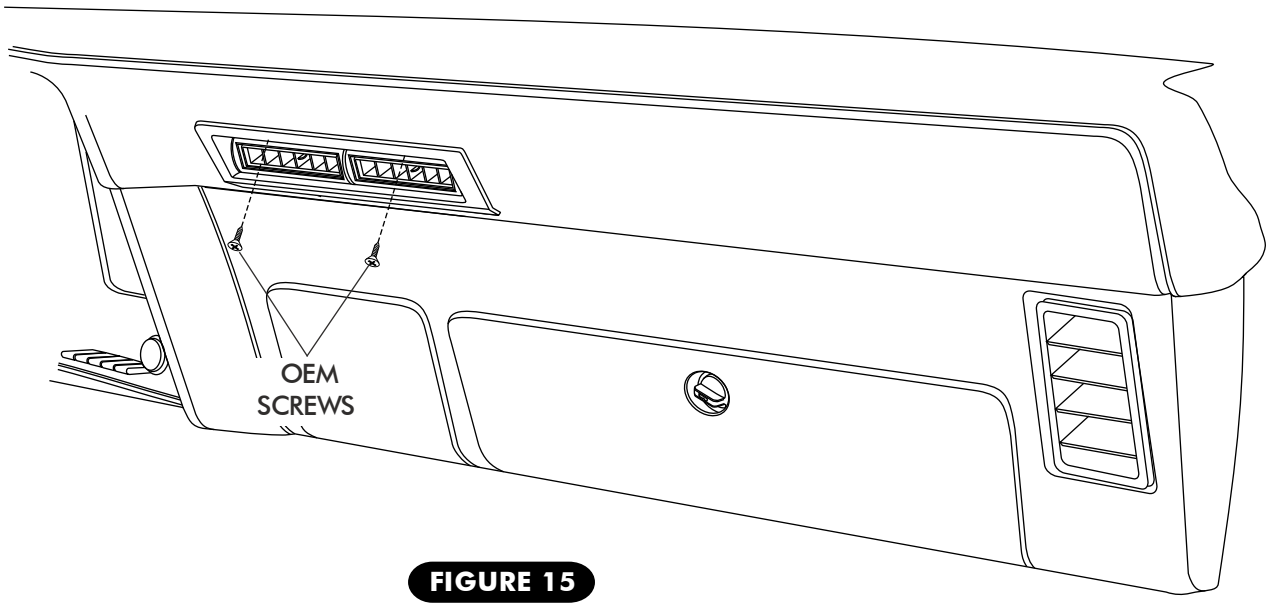


FIGURE 15

DRAIN HOSE INSTALLATION

- ☐ LOCATE EVAPORATOR DRAIN ON BOTTOM OF EVAPORATOR CASE.
- ☐ IN-LINE WITH THE DRAIN, LIGHTLY MAKE A MARK ON THE FIREWALL. MEASURE ONE INCH DOWN AND DRILL A 5/8" HOLE THROUGH THE FIREWALL. SEE FIGURE 16.
- ☐ INSTALL DRAIN HOSE TO BOTTOM OF EVAPORATOR UNIT AND ROUTE THROUGH FIREWALL. INSTALL ½" 90° DRAIN ELBOW ON DRAIN HOSE AS SHOWN.

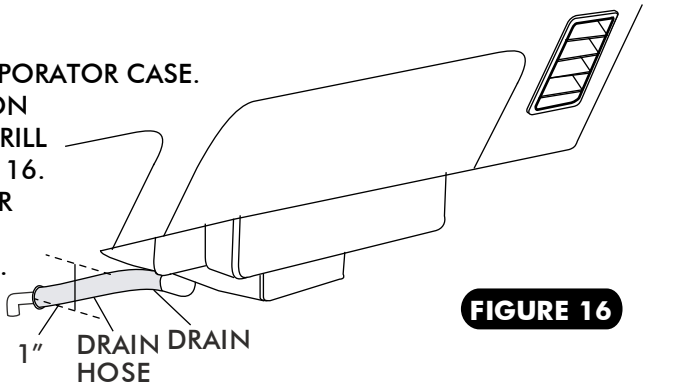


FIGURE 16

LUBRICATING O-RINGS

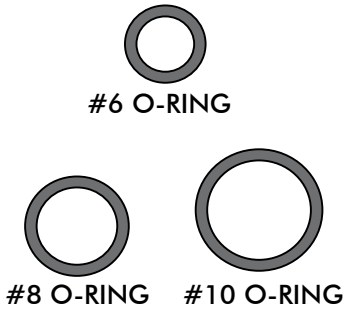
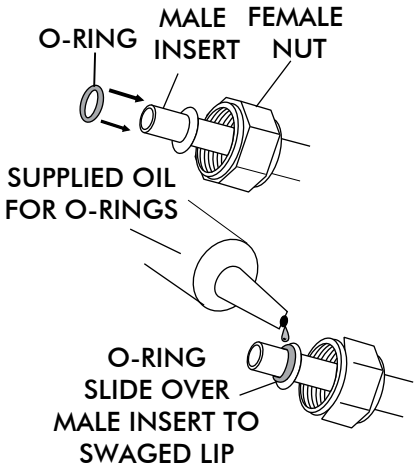
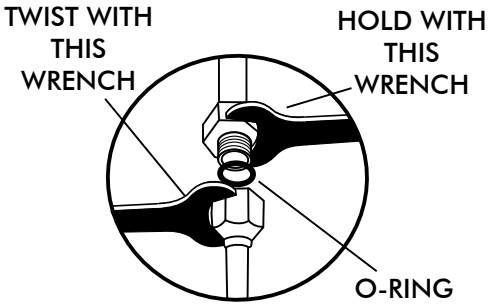


FIGURE 17



FOR A PROPER SEAL OF FITTINGS: INSTALL SUPPLIED O-RINGS AS SHOWN AND LUBRICATE WITH SUPPLIED OIL.



A/C HOSE INSTALLATION

STANDARD HOSE KIT

- ☐ LOCATE THE #8 COMPRESSOR A/C HOSE. LUBRICATE (2) #8 O-RINGS (SEE FIGURE 17, ABOVE) AND CONNECT THE 135° FEMALE FITTING w/ 134a SERVICE PORT TO THE #8 DISCHARGE PORT ON THE COMPRESSOR. ROUTE THE 45° FEMALE FITTING TO THE #8 CONDENSER HARDLINE COMING THROUGH CORE SUPPORT. SEE FIGURE 18, PAGE 16. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 17 ABOVE.
- ☐ LOCATE THE #10 COMPRESSOR A/C HOSE. LUBRICATE (2) #10 O-RINGS (SEE FIGURE 17, ABOVE) AND CONNECT THE #10 135° FEMALE FITTING w/134a SERVICE PORT TO THE #10 SUCTION PORT ON THE COMPRESSOR. ROUTE THE 90° FEMALE FITTING TO THE #10 EVAPORATOR. SEE FIGURE 12 PAGE 13 AND FIGURE 18, PAGE 16. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN 17 ABOVE.
- ☐ LOCATE THE #6 EVAPORATOR A/C HOSE. LUBRICATE (2) #6 O-RINGS (SEE FIGURE 17 , ABOVE) AND CONNECT THE 90° FEMALE FITTING TO THE DRIER. ROUTE THE 90° FEMALE FITTING TO THE #6 EVAPORATOR. SEE FIGURE 12, PAGE 13 AND FIGURE 18 PAGE 16. TIGHTEN EACH FITTING CONNECTION AS SHOWN IN FIGURE 17, ABOVE.
- ☐ USE A #10 ADEL CLAMP TO SECURE THE #10 A/C HOSE TO ALTERNATOR BRKT AS SHOWN IN FIGURE 18, PAGE 16. SECURE THE ADEL CLAMP TO THE ALTERNATOR BRKT USING 10-32 x ½" PH PAN HEAD SCREWS w/ NUTS.

MODIFIED A/C HOSE KIT

- ☐ REFER TO SEPARATE INSTRUCTIONS INCLUDED WITH MODIFIED HOSE KIT.

AC, HEATER HOSE & HEATER CONTROL VALVE INSTALLATION

☐ ROUTE HEATER HOSE FROM THE WATER PUMP TO THE TOP HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 12 PAGE 13 AND FIGURE 18 BELOW. SECURE USING HOSE CLAMPS.

☐ ROUTE HEATER HOSE FROM THE INTAKE TO THE BOTTOM HEATER FITTING OF HEATER CORE AS SHOWN IN FIGURE 12 PAGE 13 AND FIGURE 18 BELOW. NOTE: INSTALL HEATER CONTROL VALVE IN-LINE WITH INTAKE MANIFOLD (PRESSURE SIDE) HEATER HOSE, SECURE USING HOSE CLAMPS AS SHOWN BELOW. **(NOTE PROPER FLOW DIRECTION. IS OPPOSITE OF ARROW MOLDED INTO VALVE BODY.)**

AC & HEATER HOSE ROUTING

NOTE: VINTAGE AIR SYSTEMS REQUIRE (2) 5/8" HOSE NIPPLES (NOT SUPPLIED)

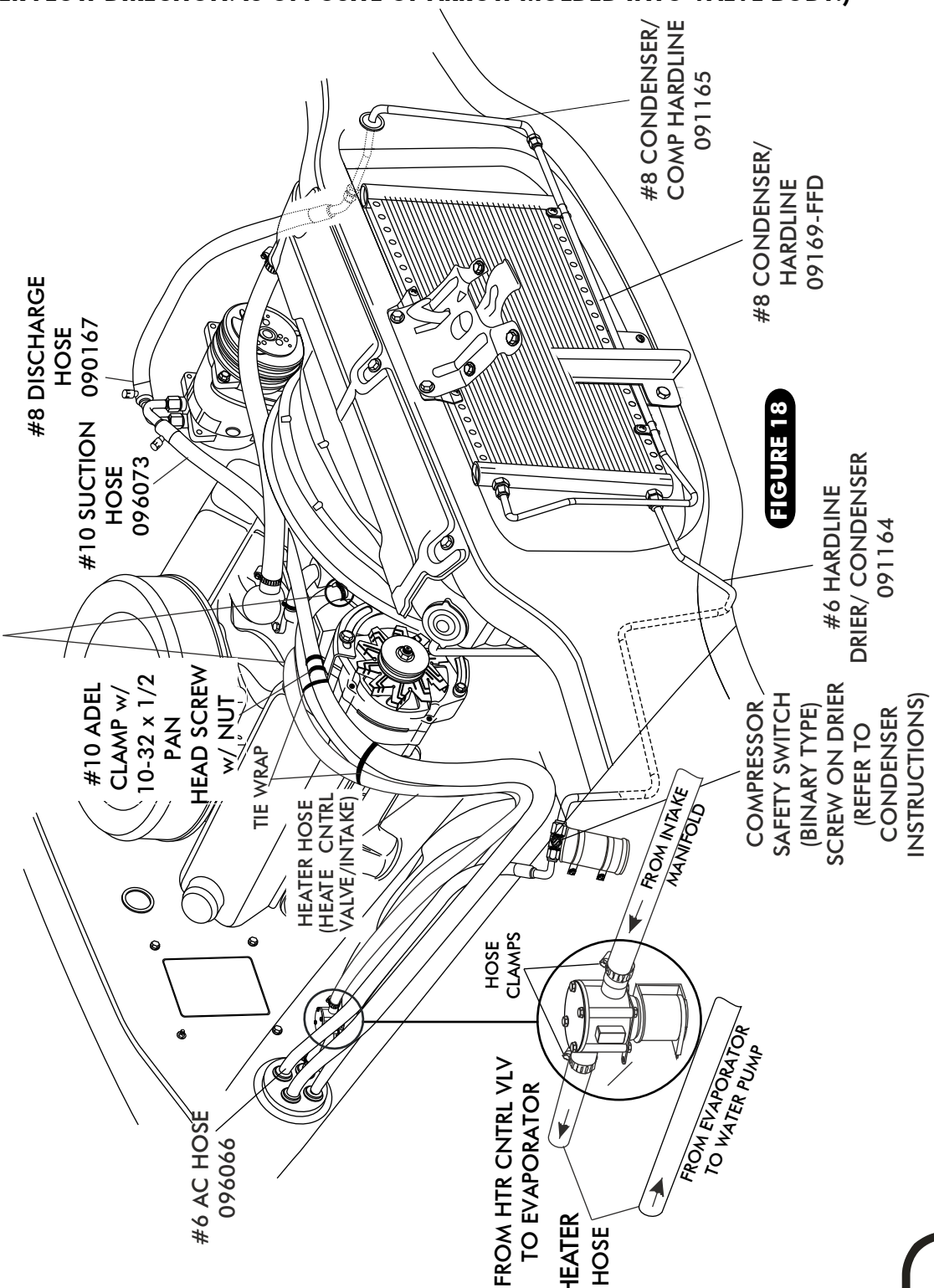


FIGURE 18

FINAL STEPS

- ☐ INSTALL DUCT HOSES AS SHOWN IN FIGURE 20, PAGE 18. EXTEND DUCT HOSE TO A TAUT CONDITION, THEN CUT TO LENGTH AS NOTED. THERE SHOULD BE LITTLE OR NO SLACK IN HOSE ONCE INSTALLED.
- ☐ ROUTE A/C WIRES THROUGH ⅜" GROMMET AS SHOWN IN FIGURE 19 BELOW. (12 VOLT/ GROUND/ BINARY SWITCH/ HEATER VALVE).
- ☐ RE-INSTALL CONTROL PANEL ASSEMBLY. (NOTE: CONTROLS MUST BE CALIBRATED FOR PROPER OPERATION. REFER TO CONTROL PANEL INSTRUCTIONS)
- ☐ PLUG THE WIRING HARNESS IN TO THE ECU MODULE ON SUB CASE AS SHOWN IN FIGURE 20, PAGE 18 (WIRE ACCORDING TO WIRING DIAGRAM ON PAGE 19 AND 20)
- ☐ MODIFY PASSENGER SIDE KICK PANEL FRESH AIR COVER AS SHOWN IN FIGURE 19b.
- ☐ REINSTALL PASSENGER SIDE KICK PANEL FRESH AIR COVER.
- ☐ INSTALL NEW GLOVE BOX AND GLOVE BOX DOOR USING OEM SCREWS SEE FIGURE 19a.
- ☐ REINSTALL ALL PREVIOUSLY REMOVED ITEMS (BATTERY, RADIATOR, RADIO)
- ☐ FILL RADIATOR WITH AT LEAST A 50/50 MIXTURE OF APPROVED ANTIFREEZE AND DISTILLED WATER OR PRE MIX ANTIFREEZE. IT IS THE OWNER'S RESPONSIBILITY TO KEEP THE FREEZE PROTECTION AT THE PROPER LEVEL FOR THE CLIMATE IN WHICH THE VEHICLE IS OPERATED. FAILURE TO FOLLOW ANTIFREEZE RECOMMENDATIONS WILL CAUSE HEATER CORE TO CORRODE PREMATURELY AND POSSIBLY BURST IN A/C MODE AND/ OR FREEZING WEATHER, VOIDING YOUR WARRANTY.
- ☐ DOUBLE CHECK ALL FITTINGS, BRACKETS AND BELTS FOR TIGHTNESS.
- ☐ VINTAGE AIR RECOMMENDS THAT ALL AC SYSTEMS BE SERVICED BY A CERTIFIED AUTOMOTIVE AIR CONDITIONING TECHNICIAN.
- ☐ EVACUATE THE SYSTEM FOR A MINIMUM OF 45 MINUTES PRIOR TO CHARGING AND LEAK CHECK PRIOR TO SERVICING.
- ☐ CHARGE THE SYSTEM TO THE CAPACITY STATED ON THE INFORMATION (PAGE 4) OF THIS INSTRUCTION MANUAL.
- ☐ SEE OPERATION OF CONTROLS PROCEDURES PAGE 21.

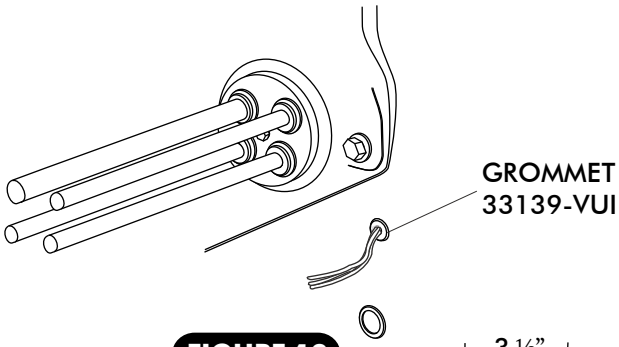


FIGURE 19

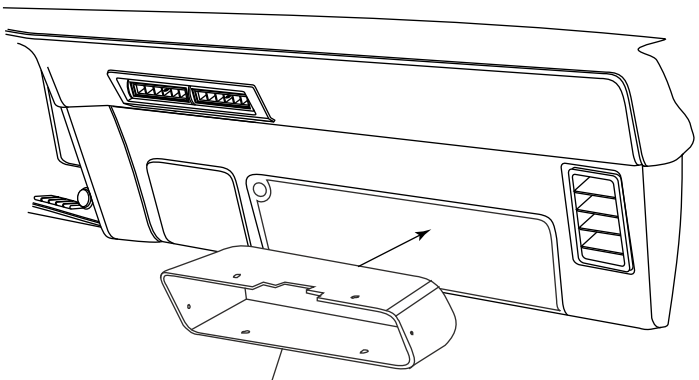
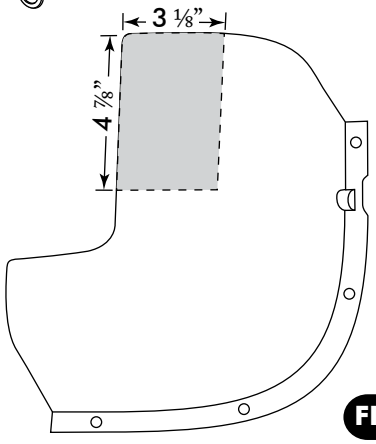


FIGURE 19a



PASSENGER
SIDE
KICK PANEL
FRESH AIR COVER

FIGURE 19b

CONTROL PANEL & DUCT HOSE ROUTING

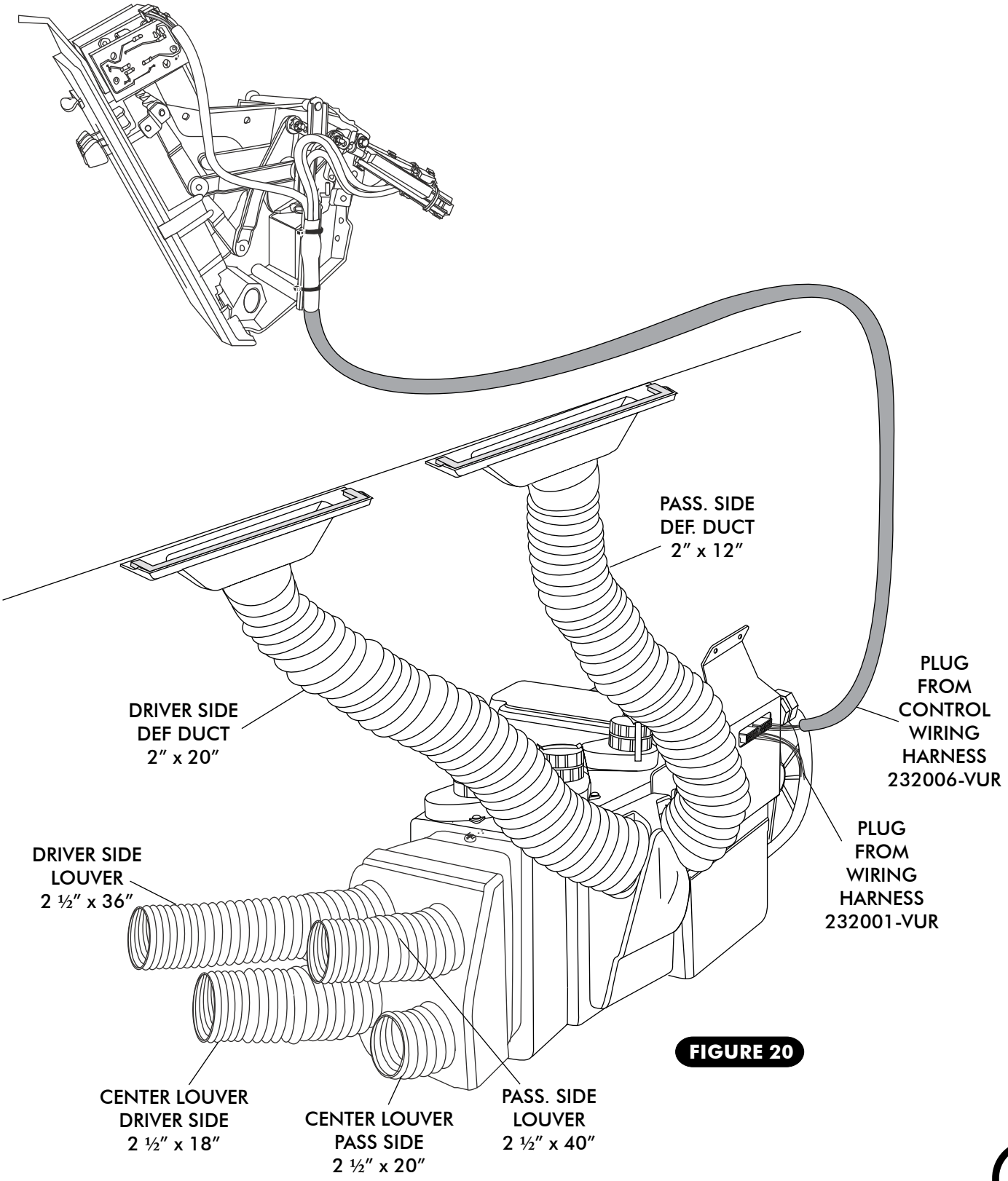
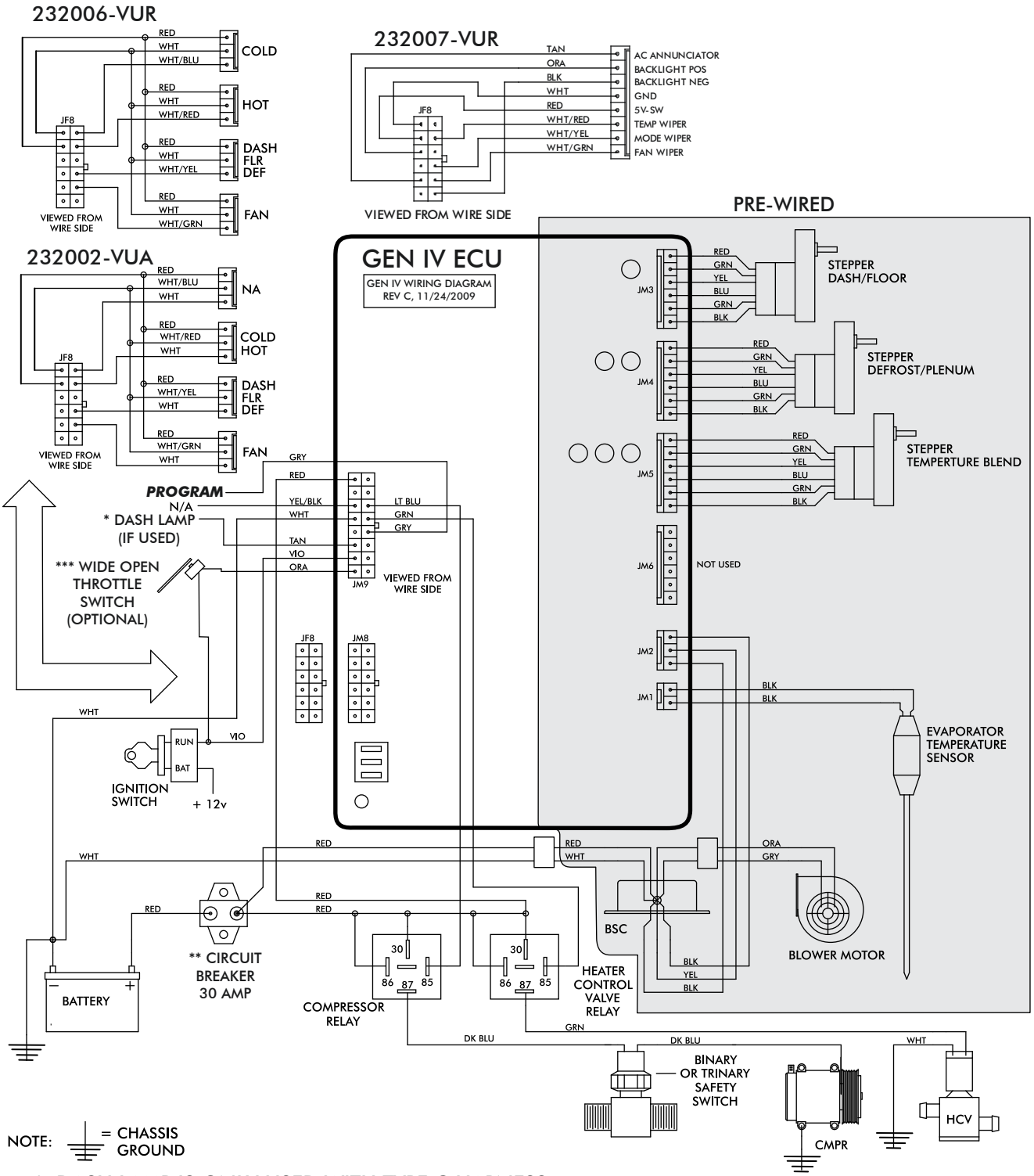


FIGURE 20

WIRING DIAGRAM

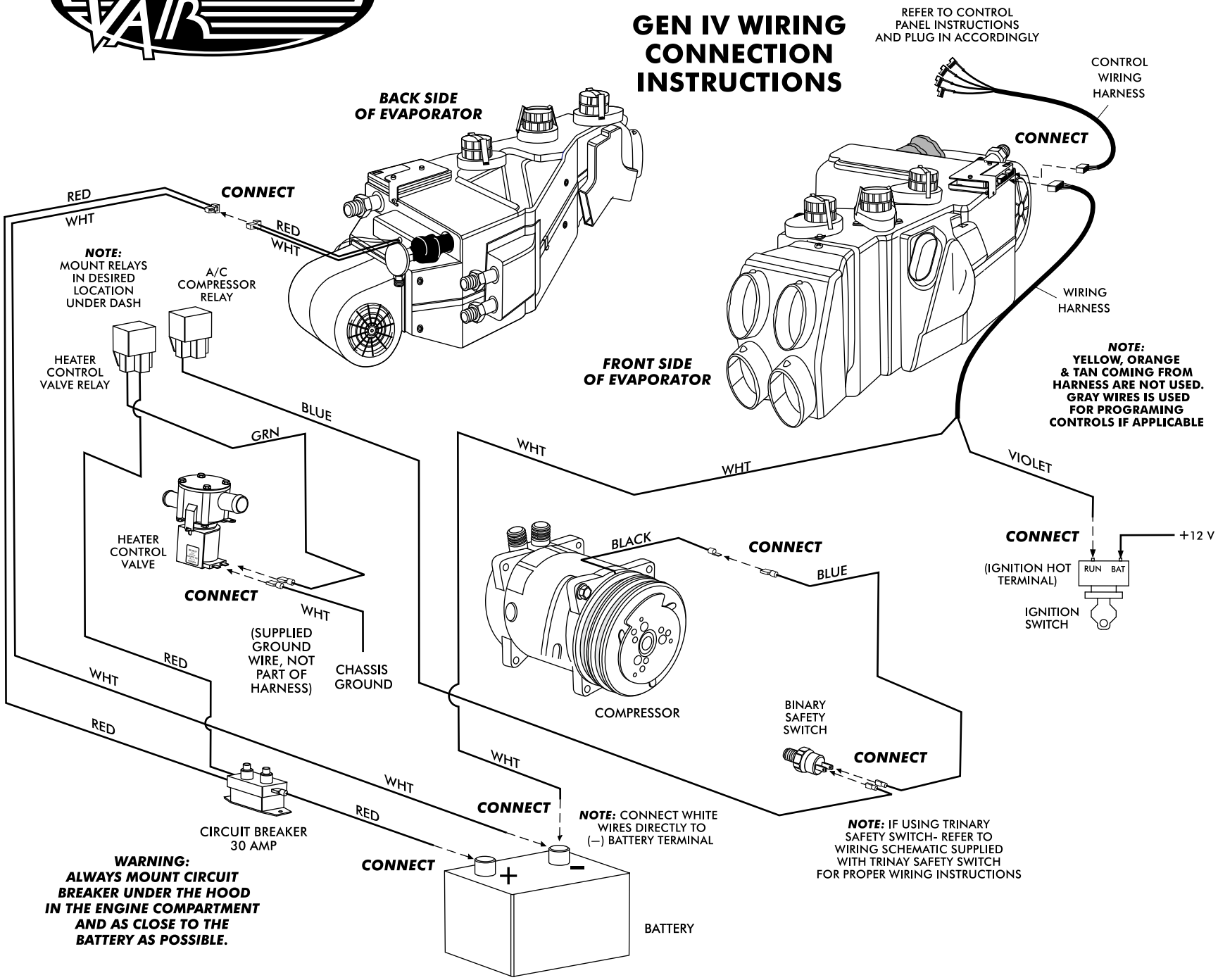


* DASH LAMP IS ONLY USED WITH TYPE C HARNESS

** WARNING: ALWAYS MOUNT CIRCUIT BREAKER UNDER THE HOOD IN THE ENGINE COMPARTMENT AND AS CLOSE TO THE BATTERY AS POSSIBLE.

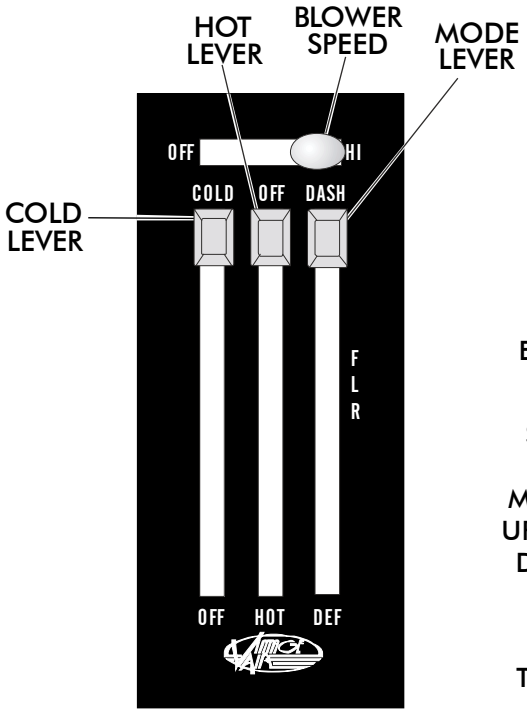
*** WIDE OPEN THROTTLE SWITCH CONTACTS CLOSE ONLY AT FULL THROTTLE, WHICH DISABLES AC COMPRESSOR.

GEN IV WIRING CONNECTION INSTRUCTIONS



OPERATION OF CONTROLS

NOTE: CONTROLS MUST BE CALIBRATED FOR PROPER OPERATION-REFER TO CONTROL PANEL INSTRUCTIONS.



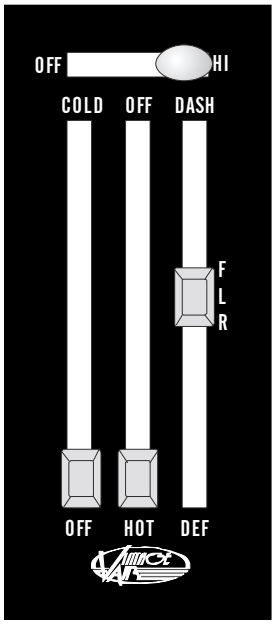
A/C MODE

BLOWER SPEED
ADJUST TO DESIRED SPEED

COLD LEVER
IN A/C MODE SLIDE THE COLD LEVER ALL THE WAY UP TO ENGAGE COMPRESSOR.

HEAT LEVER
SLIDE THE HEAT LEVER ALL THE WAY UP FOR MAX COLD. (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)

MODE LEVER
SLIDE THE LEVER TO THE "DASH" POSITION



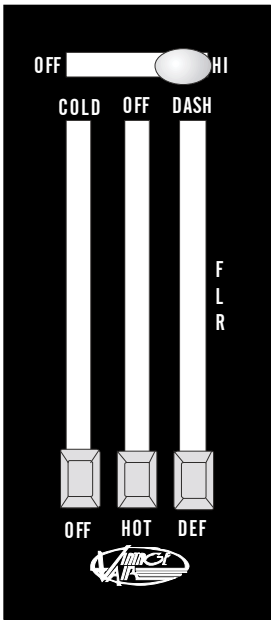
HEAT MODE

BLOWER SPEED
ADJUST TO DESIRED SPEED

COLD LEVER
SLIDE THE COLD LEVER ALL THE WAY DOWN.

HEAT LEVER
SLIDE THE HEAT LEVER ALL THE WAY DOWN FOR MAX HEAT (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE)

MODE LEVER
SLIDE THE LEVER TO THE "FLOOR" POSITION



DEFROST/ DE-FOG MODE

BLOWER SPEED
ADJUST TO DESIRED SPEED

COLD LEVER
COMPRESSOR IS FORCED ON IN DEFROST MODE. THERE IS NO NEED TO ADJUST THIS LEVER.

HEAT LEVER
SLIDE HEAT LEVER ALL THE WAY UP. (SLIDE LEVER UP OR DOWN TO ADJUST DESIRED TEMPERATURE

MODE LEVER
SLIDE THE LEVER TO THE "DEF" POSITION

TROUBLE SHOOTING INFORMATION

SYMPTOM	*CONDITION*	*CHECKS*	*ACTIONS*	*NOTES*
1. BLOWER STAYS ON HIGH SPEED WHEN IGNITION IS ON	NO OTHER FUNCTIONS WORK	CHECK FOR DAMAGED PINS OR WIRES IN CONTROL HEAD PLUG.	VERIFY ALL PINS ARE INSERTED INTO PLUG. INSURE NO PINS ARE BENT OR DAMAGED IN ECU.	
		CHECK FOR DAMAGED GROUND WIRE (WHITE) IN CONTROL HEAD HARNESS.	VERIFY CONTINUITY TO CHASSIS GROUND WITH WHITE CONTROL HEAD WIRE AT VARIOUS POINTS.	LOSS OF GROUND ON THIS WIRE WILL RENDER CONTROL HEAD INOPERABLE
	ALL OTHER FUNCTIONS WORK	CHECK FOR DAMAGED BLOWER SWITCH OR POT AND ASSOCIATED WIRING.		SEE BLOWER SWITCH CHECK PROCEDURE (CONTACT VINTAGE AIR TECH SUPPORT)
BLOWER STAYS ON HIGH SPEED WHEN IGNITION IS ON OR OFF.		UN-PLUG 3 WIRE BSC CONTROL CONNECTOR FROM ECU. IF BLOWER SHUTS OFF, ECU IS EITHER IMPROPERLY WIRED, OR DAMAGED.	BE SURE SMALL, 20GA. WHITE GROUND WIRE IS CONNECTED TO THE BATTERY GROUND POST. IF IT IS, REPLACE ECU.	
		UN-PLUG 3 WIRE BSC CONTROL CONNECTOR FROM ECU. IF BLOWER STAYS RUNNING, THE BSC IS EITHER IMPROPERLY WIRED, OR DAMAGED.	CHECK TO INSURE THAT NO BSC WIRING IS DAMAGED OR SHORTED TO VEHICLE GROUND. THE BSC OPERATES THE BLOWER BY GROUND SIDE PWM SWITCHING. THE POSITIVE WIRE TO THE BLOWER WILL ALWAYS BE HOT. IF THE "GROUND" SIDE OF THE BLOWER IS SHORTED TO CHASSIS GROUND, THE BLOWER WILL RUN ON HI.	
			REPLACE BSC. (THIS WILL REQUIRE EVAPORATOR TO BE REMOVED FROM VEHICLE.)	NO OTHER PART REPLACEMENTS SHOULD BE NECESSARY.

2. COMPRESSOR WILL NOT TURN ON (ALL OTHER FUNCTIONS WORK)	SYSTEM IS NOT CHARGED	SYSTEM MUST BE CHARGED FOR COMP. TO ENGAGE.	CHARGE SYSTEM OR BYPASS PRESSURE SWITCH .	***DANGER- NEVER BYPASS SAFETY SWITCH WITH ENGINE RUNNING, SERIOUS INJURY CAN RESULT***
	SYSTEM IS CHARGED	CHECK FOR FAULTY A/C POT OR ASSOC. WIRING	CHECK CONTINUITY TO GROUND ON WHITE CONTROL HEAD WIRE. CHECK FOR 5V ON RED CONTROL HEAD WIRE.	TO CHECK FOR PROPER POT FUNCTION, CHECK VOLTAGE AT WHITE/BLUE WIRE. VOLTAGE SHOULD BE BETWEEN 0 AND 5V, AND WILL VARY WITH POT LEVER POSITION.
		CHECK FOR DISCONNECTED OR FAULTY THERMISTOR.	CHECK TWO PIN CONNECTOR AT ECU HOUSING.	DISCONNECTED OR FAULTY THERMISTOR WILL CAUSE COMPRESSOR TO BE DISABLED.
		(CHECK FOR FAULTY PRESSURE SWITCH)	CHECK CONTINUITY ACROSS SWITCH	REPLACE SWITCH

3. COMPRESSOR WILL NOT TURN OFF (ALL OTHER FUNCTIONS WORK)		CHECK FOR FAULTY A/C POT OR ASSOC. WIRING	REPAIR/REPLACE POT/CONTROL WIRING	RED WIRE @ A/C POT SHOULD HAVE APPROX. 5V WITH IGNITION ON. WHITE WIRE WILL HAVE CONTINUITY TO CHASSIS GROUND, WHITE/BLUE WIRE SHOULD VARY BETWEEN 0V AND 5V WHEN LEVER IS MOVED UP AND DOWN.
		CHECK FOR FAULTY A/C RELAY	REPLACE RELAY	
		FOR '55-56 CHEV. CHECK FOR PROPER PANEL CONVERSION. CONTROL LEVERS SHOULD TRAVEL TO WITHIN 1/8" OF BOTH ENDS OF THE SLOTS.	REFER TO INTSRUCTIONS "'55-56 CONTROL PANEL CONVERSION REV B 6 17 05" PDF OR 903055-PCA REV C 8/10/05 OR LATER INSRUCTION MANUAL.	EARLY INSTRUCTIONS ON '55-56 CHEV. DID NOT INCLUDE PANEL MOD PROCEEDURE FOR CONTROL WITH LOWER POT BRACKET OFFSET BACK FROM CASTING. IF LEVERS ONLY TRAVEL 2/3 TO 3/4 UP, THIS PROCEEDURE MUST BE PERFORMED
			REPLACE ECU.	

TROUBLE SHOOTING INFORMATION CONT.

4. SYSTEM WILL NOT TURN ON OR RUNS INTERMITTENTLY	WORKS WHEN ENGINE IS NOT RUNNING, SHUTS OFF WHEN ENGINE IS STARTED. (TYPICALLY EARLY GEN 4, BUT POSSIBLE ON ALL VERSIONS)	NOISE INTERFERENCE FROM EITHER IGNITION OR ALTERNATOR.	INSTALL CAPACITORS ON IGN. COIL, AND ALTERNATOR. ENSURE GOOD GROUND AT ALL POINTS.RE-LOCATE COIL AND ASSOCIATED WIRING AWAY FROM ECU AND ECU WIRING. CHECK FOR BURNED OR LOOSE PLUG WIRES.	IGNITION NOISE (RADIATED OR CONDUCTED) WILL CAUSE THE SYSTEM TO SHUT DOWN DUE TO HIGH VOLTAGE SPIKES. IF THIS IS SUSPECTED, CHECK WITH A QUALITY OSCILISCOPE. SPIKES GREATER THAN 16V WILL SHUT DOWN ECU. INSTALL A RADIO CAPACITOR AT THE POSITIVE POST OF THE IGNITION COIL (SEE RADIO CAPACITOR INSTALLATION BULLETEN). A FAULTY ALTERNATOR OR WORN OUT BATTERY CAN ALSO RESULT IN THIS CONDITION. BATTERY MUST BE IN GOOD CONDITION FOR ALTERNATOR REGULATOR TO FUNCTION PROPERLY.
	WILL NOT TURN ON UNDER ANY CONDITIONS	VERIFY CONNECTIONS ON POWER LEAD, IGNITION LEAD, AND BOTH WHITE GROUND WIRES.	CHECK FOR POSITIVE POWER AT HEATER VALVE GREEN WIRE. AND BLOWER RED WIRE. CHECK FOR GROUND ON CONTROL HEAD WHITE WIRE.	
		VERIFY BATTERY VOLTAGE IS GREATER THAN 10 VOLTS AND LESS THAN 16.	VERIFY PROPER METER FUNCTION BY CHECKING A KNOWN GOOD BATTERY'S VOLTAGE.	

5. LOSS OF MODE DOOR FUNCTION	NO MODE CHANGE AT ALL	CHECK FOR DAMAGED MODE SWITCH OR POT AND ASSOCIATED WIRING		
	PARTIAL FUNCTION OF MODE DOORS	CHECK FOR OBSTRUCTED OR BINDING MODE DOORS		TYPICALLY CAUSED BY EVAPORATOR HOUSING INSTALLED IN A BIND IN THE VEHICLE. BE SURE ALL MOUNTING LOCATIONS LINE UP AND DON'T HAVE TO BE FORCED INTO POSITION.
		CHECK FOR DAMAGED STEPPER MOTOR OR WIRING		

6. BLOWER TURNS ON AND OFF RAPIDLY	BATTERY VOLTAGE IS AT LEAST 12V	CHECK FOR AT LEAST 12V BETWEEN GREEN HEATER VALVE WIRE AND CHASSIS GROUND.	INSURE ALL SYSTEM GROUNDS AND POWER CONNECTIONS ARE CLEAN AND TIGHT.	
	BATTERY VOLTAGE IS LESS THAN 12V	CHECK FOR FAULTY BATTERY OR ALTERNATOR	CHARGE BATTERY	SYSTEM SHUTS OFF BLOWER AT 10V. POOR CONNECTIONS OR WEAK BATTERY CAN CAUSE SHUT DOWN AT UP TO 11V

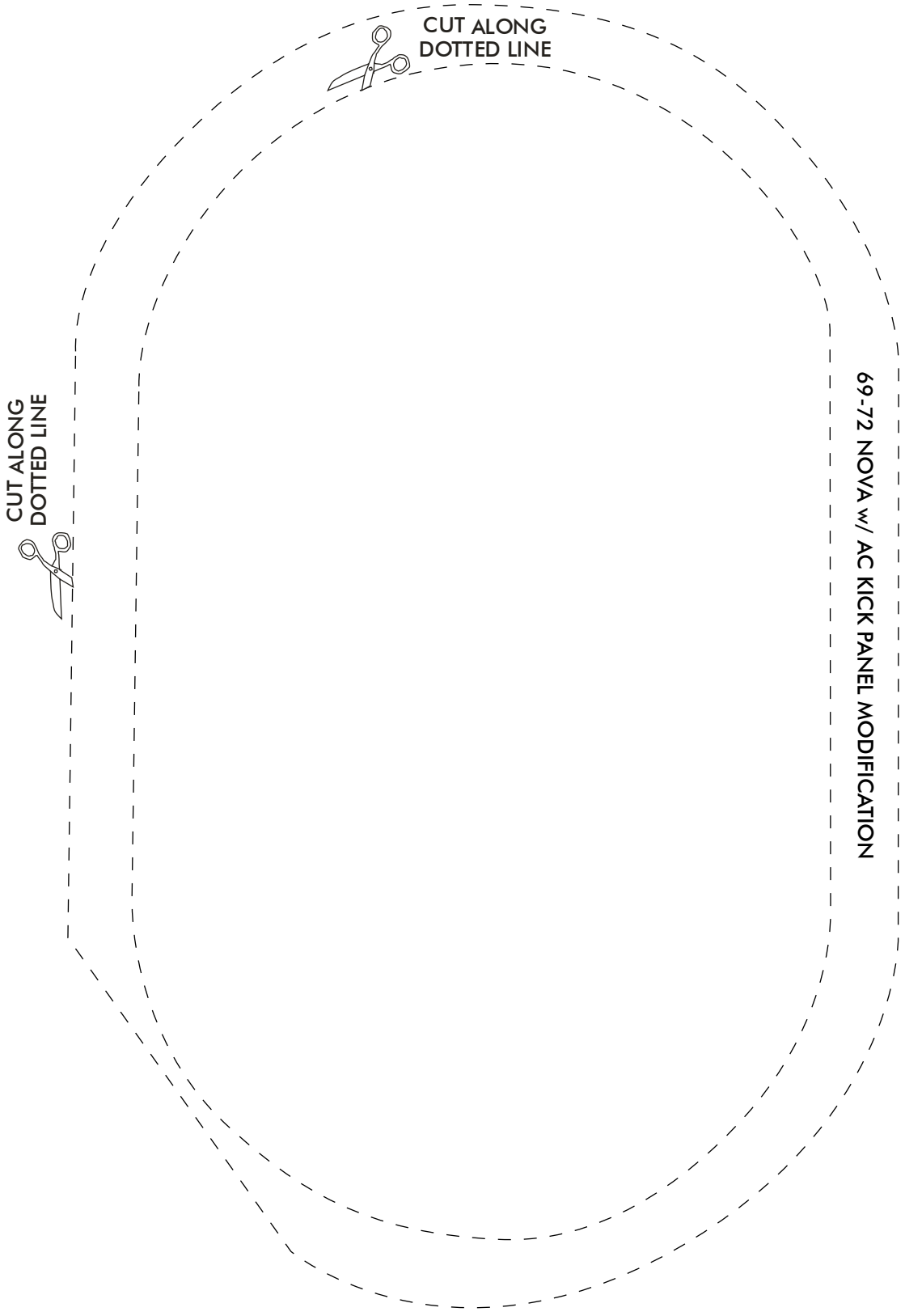
7. ERATIC FUNCTIONS OF BLOWER, MODE, TEMP, ETC.		CHECK FOR DAMAGED SWITCH OR POT AND ASSOCIATED WIRING	REPAIR OR REPLACE	

8. WHEN THE IGNITION IS TURNED ON, THE BLOWER MOMENTARILY COMES ON, THEN SHUTS OFF. THIS IS WITH THE BLOWER SWITCH IN THE OFF POSITION.		THIS IS AN INDICATOR THAT THE SYSTEM HAS BEEN RE-SET. BE SURE THE RED POWER WIRE IS ON THE BATTERY POST AND NOT ON A SWITCHED SOURCE. ALSO, IF THE SYSTEM IS PULLED BELOW 7V EVEN FOR A SPLIT SECOND, THE SYSTEM WILL RE-SET.	RUN RED POWER WIRE DIRECTLY TO BATTERY.	

9. BACKLIGHTING ON CONTROL PANEL ALWAYS ON.	VINTAGE AIR SUPPLIED PANELS ONLY.	TAN WIRE IN MAIN HARNESS IS NOT CONNECTED TO 0-12V GAUGE BACK LIGHT WIRE.	CONNECT TO GAUGE BACK LIGHT WIRE (0-12V) WHICH WHICH CONTROLS DIMMING OF PANEL BACK LIGHT	TAN WIRE IS ONLY USED ON SYSTEMS WITH ENTIRE CONTROL PANEL SUPPLIED BY VINTAGE AIR.

10. BACKLIGHTING ON CONTROL PANEL ALWAYS OFF.	VINTAGE AIR SUPPLIED PANELS ONLY.	TAN WIRE IN MAIN HARNESS NOT CONNECTED.	CONNECT TO GAUGE BACK LIGHT WIRE (0-12V) WHICH WHICH CONTROLS DIMMING OF PANEL BACK LIGHT	

KICK PANEL MODIFICATION TEMPLATE



EVAPORATOR KIT PACKING LIST

EVAPORATOR KIT
565072

No.	QTY.	PART No.	DESCRIPTION	
1.	1	744003	GEN IV 4 VENT EVAP. SUB CASE w/ 205 ECU	_____
2.	1	784177	1969-72 NOVA w/ AC ACC. KIT	_____

CHECK BY: _____
PACKED BY: _____
DATE: _____

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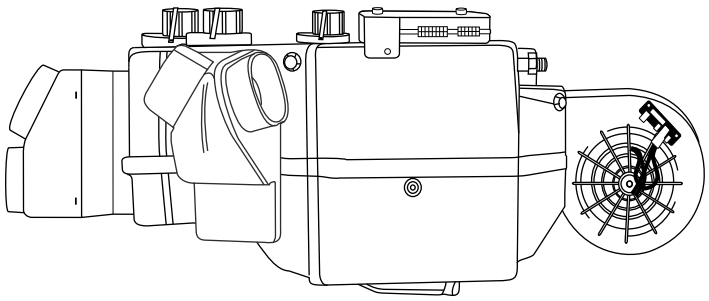
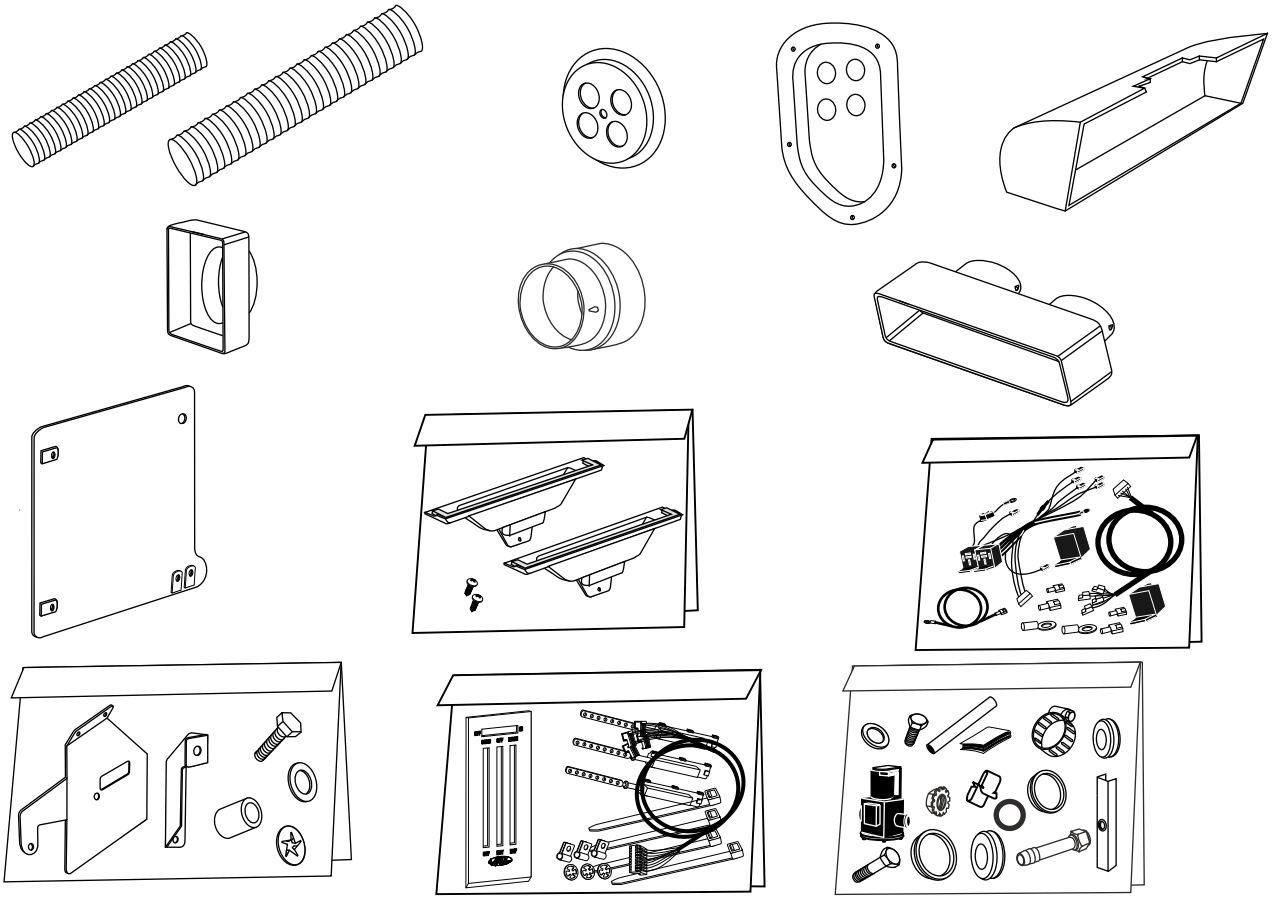


GEN IV 4 VENT
EVAP. SUB CASE
w/ 205 ECU
744003

②



ACCESSORY KIT
784177

**NOTE: IMAGES MAY NOT DEPICT ACTUAL PARTS AND QUANTITIES.
REFER TO PACKING LIST FOR ACTUAL PARTS AND QUANTITIES**